

ANNUAL REPORT

OF THE

PUBLIC HEALTH

OF THE

NEWTON ABBOT RURAL

NEWTON ABBOT URBAN

AND

DAWLISH URBAN

SANITARY DISTRICTS.

For 1906.

BY

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COMPARATIVE TABLE.

PLACES. 1906.	Birth-rate.	Annual death-rate per 1,000 of population.									Deaths under one year to every 1000 births.
		Total Death-rate.	From Seven Zymotics.	Small-pox.	Measles.	Whooping Cough.	Scarlatina.	Diphtheria.	Continued Fever.	Diarrhoea.	
England & Wales *	26.3	15.1	1.18	...	.14	.19	.08	.16	.09	.52	116
Newton Abbot Rural	22.6	14.4	.74	...	.11	.11	.05	.16	.11	.21	68
Newton Abbot Urban	24.8	14.1	1.5	...	.23	.08	...	...	.30	.91	106
Dawlish Urban	19.2	14.0	.50	...	...	...	...	.25	..	.25	52

* less 218 towns.

RAINFALL IN 1906.

I give below statistics obtained at 11 stations in the three districts. It will be observed that in all of them, except at Dawlish or its neighbourhood, increases—slight in most instances—were recorded as compared with the previous year. These varied from .38 at Kingskerswell to 5.81 at the Blackingstone. The Lawn, Dawlish Urban, shows, however, a decrease of 2.89 and Coston of .77.

All, however, are some way behind the mean of preceding years, this deficit ranged from 2.84 inches at Ideford to 7.77 inches at Moreton Rectory. This shortage following on the dry season of 1905 was the cause of still further depletion of underground water sources, and owing to the failure, complete or partial, of many wells and springs, water was scarce in parts of the district during the summer and autumn months. The amount of rain which fell (though slightly greater than in 1905) was unevenly distributed; January and October were two very wet months; indeed about 40 per cent. of the total was recorded during these. A moderate fall occurred in February, but the interval between that month and October was practically one long drought. It will be noticed that the figure for Leusden, which is in the valley of the Dart, is about double that for the other stations, and the want of water was mostly felt in the eastern or low-lying parts of the district.

I have this year established another station at Broadhempston, in the S. Western corner of the Newton Rural district.

STATIONS		Feet above sea level.	January	February	March	April	May	June	July	August	September	October	November	December	Rainfall in inches.		
															1906.	Average	1905.
1	Dawlish East, Lawn	186	6.42	3.75	1.06	1.24	1.90	1.27	.90	1.73	.80	4.06	2.36	1.71	27.20	33.19	30
2	Dawlish West, Vicarage ...	605	5.31	2.99	.95	1.08	1.59	2.31	.87	1.16	.98	4.95	2.26	1.55	26.00	29.30	20
3	Haldon, Thorns	550	6.16	3.43	.99	1.45	1.82	2.07	.94	1.88	.80	6.55	3.25	1.90	31.24	...	...
4	Henneock, Mardon	810	8.18	4.34	1.13	1.21	2.11	1.56	.71	2.38	.63	6.74	3.72	2.57	35.28	41.15	33
5	Highweek, Newton Abbot	250	6.49	3.86	1.12	1.11	2.00	2.08	.92	1.71	.86	6.36	3.43	1.98	31.92	36.16	30
6	Ideford, Rectory ...	300	6.12	4.15	1.04	1.38	1.76	2.05	.90	1.52	.85	6.05	3.46	1.89	31.17	34.91	28
7	Leusden School	900	15.25	7.35	3.35	1.43	4.83	1.92	1.14	3.06	1.21	10.61	5.79	4.23	60.17	...	50
8	Kingskerswell, South Hill	270	5.97	3.82	.70	1.02	1.58	2.17	1.27	.80	.71	5.57	3.38	1.35	28.31	32.48	27
9	Moreton, Blackingstone.....	1090	6.23	2.87	1.11	1.23	1.97	1.63	.67	1.78	.67	4.46	3.13	2.26	28.01	31.19	22
10	Moreton, Rectory.....	600	8.61	4.56	2.01	1.38	2.37	1.70	.71	1.93	.53	4.88	3.88	3.21	35.83	43.60	33
11	Trusham, Rectory	320	6.30	3.76	1.07	1.29	1.91	1.79	.83	2.36	.74	6.39	3.39	1.62	31.45	36.77	28

The averages in the last column are for 4 years at Dawlish East and Moreton Rectory; 5 at Highweek; 7 at Dawlish West; 10 at Moreton, Blackingstone; 11 at Kingskerswell; 19 at Ideford and Trusham; and 29 at Henneock.

I am indebted for the above figures to the Revs. C. F. Benthall (West Dawlish); O. H. Cary (Trusham); S. Dewey (Moreton Rectory); and G. J. Ford (Ideford); Messrs. J. Baneroff (Leusden); S. C. Chapman, Water Engineer to the Torquay Corporation (Blackingstone and Mardon); S. R. Churchward, Surveyor (Dawlish East and the Thorns); and R. A. Foster, Kingskerswell.

ANNUAL REPORTS,

1906.

1.—NEWTON ABBOT RURAL.

PHYSICAL CHARACTERS.—The district presents two distinct features. The central portion is occupied by a low-lying area of irregular shape, being 8—9 miles by 2—3 in its greatest dimensions, and drained by the river Teign and its tributaries. This was formerly the site of a lake belonging to the miocene period ; and the soil is composed of beds of clay, quartzose sands—the washings from the surrounding hills—and lignite, which have at one point been ascertained to attain a depth of over 500 feet. The working of this clay constitutes a special source of trade and wealth in the neighbourhood. This level area is bounded by hills of red breccia or sandstone (on the coast), greensand, shales, and limestone : to the westward by the igneous bosses of Dartmoor, which rise from the valley to an elevation of 1,560 feet at Rippon Tor and culminate on the margin of the district in the mass of Hameldown, 1,750 feet above sea level. These constitute uplands, which with their wooded slopes, pure moor breezes, and abundance of water, are altogether faultless as far as natural endowments go. Thus the varieties of climate to be found are marked—the warm and sheltered combes, luxuriant in foliage, which run down to the sea or the valley of the Teign—as at Bishopsteignton, Combe, or Lustleigh—are at one end of the scale ; whereas at the other are Moretonhampstead, Manaton, and Ipplepen, on uplands of considerable elevation, and lower barometric pressure.

The district has an acreage of 99,142, and a population at the census of 1901 of 18,902 ; it includes 28 parishes, varying in density from those containing the small towns

of Bovey, Chudleigh, Moretonhampstead, and Kingsteignton, to the purely rural and thinly inhabited areas of Manaton, Widecombe, and Woodland. At the time of the above census there were 4,229 inhabited houses with an average of 4·5 persons per house ; since then, however, a considerable amount of building has been going on, first at Kingsteignton and Moreton, and latterly at Bovey ; portions also of the rural area, notably at Haytor, are showing signs of development. There has been no change in the constitution of the district during the past five years, and for the purpose of calculating the various rates given in the accompanying tables, I have left the census figures unchanged.

VITAL STATISTICS.—The number of deaths in persons belonging to the district was 272, of which 135 were in males and 137 in females, giving an annual death-rate of 14·4 per 1,000. This is 1·1 below that of 1905 and is also ·7 below the average for the preceding 10 years ; during that period there were only two occasions (1896 and 1903) on which a better figure was recorded. Of these 272 deaths, 17 took place in the Union House and 3 in the County Asylum at Exminster among former residents ; if these are excluded the rate is reduced to 13·3. Deaths in public institutions are just about the average, those in the Asylum being included last year for the first time. The highest mortality was registered in the first and last quarters of the year, while December (30 deaths) and October (28) were the most fatal months. 75 deaths were registered in the first quarter, 70 in the second, 52 in the third, and 75 in the fourth, giving rates per 1,000 per annum of 15·9, 14·8, 11·0 and 15·9 respectively.

CHIEF CAUSES OF FATALITY.—From 7 zymotic diseases, 14 deaths ; other septic diseases, 4 ; influenza, 3 ; constitutional diseases, 58, of which 26 were due to cancer and 16 to phthisis ; diseases of the nervous system, 44 ; of the respiratory system, 33 ; of the circulatory system, 38 ; of the urinary system, 11 ; of the digestive system, 14 ; of the locomotive organs, 1 ; of parturition, 1, infantile debility, 2 ; premature birth, 9 ; old age, 28 ; and violence, 12, of which 8 were due to accident and 4 to suicide.

AGE INCIDENCE.—Under the age of 1 year there were 29 deaths ; between 1 and 5 years, 8 ; between 5

Death Rates, &c., in each Parish.

PARISHES.	Census 1901.		Ordinary Zymotics.							Influenza.	Phthisis.	Other Tubercular Diseases.	Cancer.	Apoplexy.	Intoxication.	Violence.	Deaths in Union House & County Asylums belonging to Parishes.	Total Deaths.	Death Rates.	
	Population.	Average	Small Pox.	Scarlatina.	Diphtheria.	Whooping Cough.	Measles.	Diarrhoea.	Continued Fevers.										1906	Average for yrs 1896-1905
Abbotskerswell ...	457	1486	..	..	..	..	..	..	1	..	6	..	..	..	..	1	..	7	15.3	11.9
Bickington.....	215	1403	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	8	37.2	13.4
Bishopsteignton ...	1076	4449	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	11	10.2	15.4
Bovey Tracey	2691	7567	..	1	..	..	..	1	..	..	3	1	..	2	3	..	..	34	12.6	12.2
Broadhempston ...	445	2200	..	..	..	..	..	..	..	..	..	..	2	1	..	1	..	12	27.0	21.6
Buckland	87	1493	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	1	11.5	6.5
Chudleigh	1820	6128	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	19	10.4	17.5
Cockington	265	1451	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3	11.3	16.6
Coff'swell & D'cm'be	201	1152	..	..	..	1	..	..	..	..	..	1	2	..	..	..	..	1	5.0	13.0
Coombe & Haccombe	358	2004	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	22.3	7.7
Dawlish (West) ...	678	3870	..	..	..	1	..	..	..	..	..	..	1	3	..	1	..	6	8.8	12.2
Denbury & Torbrian	448	3002	..	..	..	..	..	1	1	..	..	..	1	..	..	1	..	5	11.2	15.6
Hennock.....	711	3299	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	12	16.9	12.9
Ideford	254	1440	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	nil	10.9
Ilington	886	7843	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	11	12.4	13.4
Ipplepen	789	2887	..	..	..	1	..	..	..	2	..	2	1	..	..	..	3	14	17.7	13.5
Kingskerswell	1027	1797	..	..	..	1	..	..	..	..	3	..	1	3	..	1	..	11	10.7	15.8
Kingsteignton	1942	3975	..	..	..	..	..	2	..	3	1	2	3	1	..	4	..	35	18.0	17.3
Lustleigh	400	2978	..	..	..	..	1	..	..	..	1	1	1	1	..	1	..	7	17.5	9.1
Manaton	315	6422	..	..	..	..	..	..	..	..	..	3	1	2	..	3	..	4	12.7	10.3
Moretonhampstead	1541	7910	..	..	3	..	..	..	..	..	1	..	..	..	1	..	..	32	20.8	17.5
North Bovey.....	398	5589	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	2	5.0	11.2
Ogwell	250	2089	..	..	..	..	..	..	..	..	1	..	2	..	..	..	..	7	28.0	14.9
Stoke	463	2167	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	5	10.8	16.7
Teigngrace	190	1496	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	15.8	8.4
Trusham	165	625	..	..	..	..	..	..	..	..	1	..	2	..	..	1	..	1	6.0	14.0
Widecombe	657	10786	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	12	18.3	12.8
Woodland	170	1634	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	5.9	11.7
Totals.....	18902	99142	..	1	3	2	2	4	2	3	16	26	23	2	12	20	272	14.4	15.1	

and 15 years, 12 ; between 15 and 25 years, 16 ; between 25 and 65 years, 87 ; and over the latter age, 120. Thus 10·7 per cent. of the deaths were under 1 year, and 44·1 per cent. over 65 years ; in 1905 the figures (both of which were better than in 1904) worked out at 17·5 and 44·2 respectively ; so that while the latter item remains stationary, the former shews a large reduction. The average age at death was 51·2 years ; this was 50·5 in 1905.

THE INFANTILE MORTALITY, or number of deaths under 1 year to 1,000 births, was 68, a decrease of 24 as compared with last year's figure, and 42 below the decennial average.

The causes of infantile mortality were :—Whooping cough, 1 death ; measles, 1 ; diarrhoeal diseases, 4 ; other septic diseases, 1 ; constitutional diseases, 2, of which 1 was tubercular ; diseases of the nervous system, 3 ; of the respiratory system, 5 ; debility, 2 ; and premature birth, 9. Thus nearly one-third was due to the last cause.

The births of 219 boys and 209 girls give an annual rate of 22·6 per 1,000 ; this is again a fraction higher than that of the previous year, but still slightly below the average for the years 1896-1905, which was 22·8. 92 births were registered during the first quarter, 112 in the second, 104 in the third, and 120 in the fourth, giving rates per 1,000 per annum of 19·5, 23·7, 22·0, and 25·4 respectively. The natural increase of population, i.e., the excess of births over deaths, reckoning the mortality in the large public institutions of the Union House and County Asylum, was 156, or 8·3 per 1,000, against 128 in 1905 and 123 in 1904.

The figures for 1906, in comparison with those of previous years, are chiefly remarkable for the reduction in the infantile mortality. This figure (68) has only once been surpassed since the sanitary authority was constituted in 1874—a period of 32 years. This was in 1888, when the combination of 711 births with 47 deaths under 1 year, gave an infantile mortality of 66—slightly less. The population of the district, which then included Ashburton, Highweek and Cockington (now Chelston) was 25,800, and the birth rate 27·6. In both 1881 and 1883 the figure was 78—these come next in order of merit.

The general death rate is a considerable fraction below that of the two previous years and also of the decennial average ; this item is satisfactory, but does not approach the lowest record.

The zymotic rate of $\cdot 74$ included 3 deaths from diphtheria and 2 from typhoid fever and nearly approximated the mean, but there was comparatively little whooping cough and measles in the district; on the other hand, by the instructions of the Local Government Board, certain diarrhoeal diseases in infants under 1 year of age are for the future to be included under the heading of "diarrhoea"; 1 death has thus been added to the zymotic group in the year under review, and it is probable that the rate may be slightly increased in the future from this cause.

The percentage of deaths under 1 year to the total, following the infant mortality, is naturally low, while the proportion of senile deaths is well over 40, and the average age at death advanced somewhat; the birth rate, as in 1905, remains stationary, and this is the best that can be said. Though the last three years have all been somewhat above the low water mark of 1903, there has been no great advance, yet relatively to districts of a like character, the figure is not a bad one.

Under the other chief headings, deaths from the tubercular group are about one-third less than in the previous year (22 to 32), while they are also well below the mean (29). The mortality from the respiratory group is again low, while that from heart disease remains about normal. On the other hand the high returns of the previous year in respect to cancer fatalities are reproduced, and deaths from violence considerably exceed those of 1904 and 1905.

For purposes of comparison, the figures are tabulated on page 8, giving averages for the years 1896—1905, with the statistics for 5 preceding years.

Of the sub-registration districts, Sea Border yielded the most favourable returns. The general death rate and infantile mortality are both remarkable, and in these respects it is easily first. The zymotic rate was due to two deaths from whooping cough, while there were no fatalities from either phthisis or cancer. As might be expected from the small infant mortality, the proportion of senile deaths was correspondingly high—56·8 per cent. The unfavourable figure is the birth rate, the only one below 20.

Chudleigh has also an excellent death rate, while the infantile mortality is well below that for the whole district; the zymotic rate includes 1 death each from

Table of deaths occurring in the year 1906, in the several Sub-registration Districts of the Newton Abbot Rural Council, classified according to diseases and ages, and shewing death-rate, birth-rate, zymotic-rate, infantile mortality, and population of each locality.

SUB-REGISTRATION DISTRICTS.	Population.	BIRTHS.		DEATHS.							MORTALITY FROM SUBJOINING CAUSES.																
		Registered.	Birth-rate per 1,000.	At all Ages.	Death-rate per 1,000.	Under 1 year.	1 and under 5.	over 65 years.	Under 1 Year to every 1000 births	Belonging to district.		Seven Ordinary Zymotics.							Other Tubercular Diseases.	Bronchitis, Pleurisy, Pneumonia.	Heart Diseases.	Cancer.	Violence.	All Other Diseases			
										In House	In Union Asylum.	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Diarrhoea.	Contin'd Fevers (Typhoid, &c.)							Total deaths from Zymotics	Zymotic Death Rate per 1,000	Phthisis.
Newton Rural	4,434	125	28.2	79	17.8	9	6	27	72	7	1	...	1	...	3	...	2	1	7	1.6	6	3	8	6	9	2	38
Chudleigh	5,644	117	20.7	66	11.7	7	1	30	60	2	2	...	...	1	...	...	1	3	.53	6	1	11	13	4	3	25	
Ashburton Rural	2,460	53	21.5	45	18.3	7	...	21	132	2	...	...	...	...	...	...	1	1	.41	1	1	...	5	6	7	1	24
Moretonhampstead	2,654	64	24.1	45	17.0	4	...	21	62	3	...	...	1	...	...	...	...	1	.38	3	1	6	7	6	5	16	
Sea-border	3,710	69	18.6	37	10.0	2	1	21	29	3	...	...	...	...	...	2	...	2	.54	...	1	3	6	...	1	24	
TOTALS. 1906.....	18,902	428	22.6	272	14.4	29	8	120	68	17	3	...	2	1	3	2	4	2	14	.74	16	6	33	38	26	12	127
Average for 10 yrs. 1896-1905.	20,756	473	22.8	314	15.1	52	21	118	110	16	...	...	3.7	.4	1.7	4.5	2.7	3.1	16.1	.78	21	8	45	38	21	12	153
1905	18,902	422	22.3	294	15.5	39	14	130	92	25	4	...	6	...	...	3	3	3	15	.79	22	10	34	39	26	7	141
1904	18,902	412	21.8	285	15.1	50	21	119	121	17	...	...	3	...	...	11	2	1	17	.90	23	6	35	38	22	7	137
1903	18,902	344	18.2	236	12.5	29	14	99	84	18	...	...	3	1	4	...	...	5	13	.69	16	8	31	29	18	15	106
1902	18,902	446	23.6	279	14.8	43	6	134	96	16	...	...	...	...	2	...	4	1	7	.37	20	7	47	38	23	9	128
1901	18,902	396	21.0	275	14.5	48	19	105	121	11	...	...	8	...	2	2	2	4	18	.95	18	8	42	37	14	10	128

typhoid fever, scarlatina, and diarrhœa. The birth rate, however, is all but the lowest. This division was in the premier position in 1905.

Moretonhampstead has the best zymotic return, the fatality from measles working out at $\cdot 38$ per 1,000; in this respect the experience of the previous year was repeated. The infantile mortality was only 62, another good figure. The general death rate was, however, rather high; but there were no less than 5 deaths from violence, which alone adds nearly 2 per 1,000 to the rate. The birth rate is second on the list and is somewhat above that for the whole district.

Newton Rural, like Moreton, shews a low infant rate in combination with a somewhat large general death rate; the fatalities from the 7 ordinary zymotics included 3 deaths from diphtheria, 2 from diarrhœa, and 1 each from typhoid fever and measles, so that the incidence of mortality from the above group of diseases was most marked in this district. Phthisis and "others tubercular" were responsible for 9 deaths out of 22, and cancer 9 out of 26, in the aggregate. The birth rate was, however, the highest, and exceeds that of the whole district by 5·4.

Ashburton Rural has the most unfavourable death rate, and this was accompanied by a large infantile mortality; on the other hand, a single death from diarrhœa represented the zymotic loss, and there was only 1 fatality from tubercular disease. The birth rate occupies a medium position, somewhat lower, however, than that of the combined sub-districts.

ZYMOTIC DISEASE.—To the seven ordinary zymotic diseases, 14 deaths were assigned, as compared with 15 in 1905 and 17 in 1904, viz., 2 to measles, 1 to scarlatina, 3 to diphtheria, 2 to whooping cough, 4 to diarrhœa, and 2 to typhoid fever, giving an annual rate of $\cdot 74$ per 1,000. The decennial average works out at $\cdot 78$.

The notifications were 60 in number, as compared with 45 in 1905 and 37 in 1904; these comprised 33 of scarlatina, of which 11 were in Newton Rural, 5 in Chudleigh, 1 in Ashburton Rural, 9 in Moreton, and 7 in Sea Border; 13 typhoid fever, of which 3 were in Newton Rural, 7 in Chudleigh, and 3 in Moreton; 11 diphtheria, of which 10 were in Newton Rural and 1 in Moreton; and 3 erysipelas, divided equally between Newton Rural, Chudleigh and Sea Border,

The following table shows the monthly incidence :—

DISEASE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlatina	6	3	4	3	4	5	4	1	...	...	...	...	33
Diphtheria	...	...	1	6	1	...	...	...	1	1	...	1	11
Typhoid Fever	2	...	...	...	1	...	4	2	2	2	...	...	13
Erysipelas	...	...	...	...	...	...	1	...	...	...	1	1	3
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...
Total.....	8	3	5	9	6	8	9	3	3	3	1	2	60

MEASLES AND WHOOPING COUGH.—The district was generally free from these diseases during the past year, though 2 deaths from each were recorded. From the former 1 fatality occurred at Ipplepen in January and 1 at Lustleigh in December; this last was the only case reported. An outbreak of whooping cough at Kingskerswell in the early summer months necessitated the closure of the schools; 1 death resulted.

SCARLATINA was responsible for 33 notifications, as compared with 15 in 1905 and 14 in 1904. Eight of these were in the parish of Manaton, but inasmuch as they were confined to two isolated houses, they cannot be said to constitute an epidemic. In one instance 3, and in the other 5 children were affected; large families in both cases made isolation very indifferent, and the 5 attacks were spread over four months. All but one, a baby, attended Manaton school, but enquiry failed to elicit any sore throats among the other children, and no further cases were reported.

Kingskerswell furnished six; 4 of these were notified within a few days, in February, 3 being members of one family; the others followed at an interval of several weeks. Five were removed to hospital, while one was treated at home.

Bovey was affected to the extent of 4 cases, 3 of whom attended the same school, though there was an interval of about a month between the first two and the third; the remaining attack was about a month later still, without any apparent connection with the previous ones. The only fatality was registered here; this took

place 9 months after discharge from hospital from resulting rheumatism and heart trouble. Three of the above were treated in the sanatorium.

The village of Ogdwell, which has been unfortunate in the incidence of zymotic disease the past year, underwent a sudden little outburst towards the end of June, to the extent of 6 cases. On enquiry at the school I found a boy of 13, who had, as far as could be ascertained, little or no previous indisposition, was attending in the peeling stage; curiously enough his sister, a year or two younger, escaped. These notifications were all in one week. Four were removed to the Newton Hospital, the other two being isolated at home. For this reason and also to facilitate the reconstruction of the school drainage system, the summer holidays were taken at the end of June, at my suggestion. No further attacks were reported, and all made good recovery. Five attended the Council school.

Teigngrace furnished 3 cases, one an adult with her baby, the other a young child—these were all removed to hospital. Besides these, two other children (in one house) had slight suspicious illness, and were isolated for a month, but there was little evidence of peeling.

Single attacks were reported from Moreton, Widecombe (a visitor), Bishopsteignton, Kingsteignton (2), and Chudleigh.

In this connection the question of school disinfection is important; scrubbing of floor and desks with disinfectant is easily affected, but the question of proper treatment of books is more difficult. I have had books put through the steam disinfector, with the result that those bound in leather (at Ogdwell there were 3 dozen Bibles with good leather bindings) are utterly ruined and others bound in cloth damaged. It is also doubtful whether any method of disinfection will effectually penetrate such articles. The system which usually obtains at elementary schools is that the books are given out indiscriminately and collected again at the end of the lesson; so that, except by accident, a child does not get the same book two days running; in fact they are constantly changing hands. This seems most undesirable, not only in the matter of serious infectious disease, but because minor, but contagious, skin affections such as itch and ringworm might conceivably be thus communicated. In my opinion each child should have a separate locker or else be provided with a satchel or case in which books, pens and

pencils (these latter are at present distributed in the same way and are thus passed from mouth to mouth round the school) could be kept and thus ensure all being separate ; I am told that for a few pence per head such cases can be obtained. If this were done the books of an infected child could be burnt and replaced at the cost of a few shillings at most ; while even at a school like Oghwell, with 50 children, the destruction of all the books would, it was stated, involve an expense of over £20 to the public.

Of the total 33 cases, 8 were between the ages of 1 and 5 years, 22 between 5 and 15 years, 1 between 15 and 25 years, and 2 were over the latter age.

DIPHTHERIA.—The clean record of the previous year was not maintained in 1906 and there were 11 notifications from this disease. Nine of them were in the parish of Oghwell, with 3 fatalities. The first case reported was at an isolated house nearly a mile from the village, in a girl of 13, who attended the Council school, in the beginning of March. She was too ill to be moved, but isolation was very fair, and none of the 3 other children were affected. The house gave evidence of much dampness—a condition often found in association with this disease—owing to the defective condition of the roof. This has since been repaired. About 5 weeks later and before the first patient, who suffered from paralysis, was about again, 6 further attacks, in 3 houses, were notified—all in children. One of these was immediately fatal, 4 were removed to hospital, while one—a mild case—was kept at home. Just previously to this I found there were some slight sore throats ; but examination of several children was negative. As the disease was evidently being spread by infection, the school was closed for three weeks at my suggestion and all parents were warned that children should not go into other houses or to any public building. I made a house to house inspection of the village, and besides the usual precautions, all refuse pits and privies were cleaned out, and as far as possible disinfected with quicklime. The details of this inspection are given under the parish concerned ; several matters were attended to as the result. The school drainage system, which was defective, and the closets hand flushed, came somewhat under suspicion ; this has since been entirely reconstructed and the hand-flushed closets replaced by pails, as there is not sufficient water for

flushing purposes ; the disposal also presented difficulties. Dairies were visited, but the milk supply of the infected houses was divided. The outbreak then apparently ceased as suddenly as it had begun—these 6 cases all appearing within 3 days. Later in the year, however, two other houses was invaded, one about the middle of October ; this was a boy of 14 who had a history of severe chill and then suddenly succumbed ; the other a school girl of 13, in the first week in December, who was removed to hospital, but in this instance also the result was fatal. As far as I could discover no other sore throats accompanied either of these latter, though in both cases there were other children in the same house. In consequence of this disease still lingering in the village, another house to house disinfection of refuse pits and privies was carried out, and at the suggestion of Mr. Rogers and myself the owner of the property stripped and limewashed 14 cottages, (in addition to bedrooms in previously infected houses, all 5 of which had been thus treated) ; further all bedrooms used by young children were fumigated with the formalin lamp. The sanitation of the invaded houses presented no features calling for special remark.

Denbury was responsible for one case, of mild type, in an adult, who had been working at Oghwell just subsequently to the outbreak above alluded to ; he was treated in hospital.

The remaining attack was in a child in one of an isolated pair of cottages in the parish of Lustleigh ; she made a good recovery. The other children in this cottage escaped.

Of the above, 2 were between the ages of 1 and 5 years, 8 between 5 and 15 years, and 1 over 40.

TYPHOID FEVER furnished 13 notifications, as compared with 20 in 1905 and 5 in 1904. Five of these were reported from Chudleigh ; two, however, were early in January, and were mentioned in my report for 1905, as being in association with several cases which had occurred in the late autumn of that year. Of the other three one was towards the end of July, an adult ; the drainage system of these premises had been just previously reconstructed and it is possible that this was the operating cause. Towards the end of August another attack occurred in a child, but examination of the drainage system, which was fairly recent, was negative ; the remaining case was in a boy who had some history of constant bathing in the river and admitted drinking the water

—never a very safe proceeding ; the drainage also shewed defects. These latter three were all in different parts of the town, and without, as far as I could discover, any inter-association. Four were removed to hospital ; all recovered.

Abbotskerswell was responsible for 2 cases, both in the month of July. They were in a group of cottages where the drainage conditions left a good deal to be desired, but till the sewer is extended nothing can be done. This has been resolved on by the Council and will be shortly carried out. Both were removed to the sanatorium ; there was one fatality.

Isolated attacks were reported from Moreton, Manaton, Lustleigh, Heathfield, Chudleigh Knighton, and Kingsteignton.

That from Heathfield was remarkable from the fact that cerebro-spinal symptoms were prominent ; there was history of a rash, with subsequent rigidity of the muscles of the neck, and prolonged paralysis of the lower extremities. The house was one of a pair of detached cottages ; there was no evident cause of disease and no other associated illness.

A point of considerable interest is raised in two cases which originated at Lustleigh towards the end of September. A young adult living in a house of the villa type contracted this disease and within a few days, as far as I could ascertain, a lodger, who had in the meantime left the district, was also attacked. The milk and water supplies, and also the house drainage were examined, and found satisfactory ; there were no cases in the neighbourhood, and indeed Lustleigh has been free from the disease for several years past. An inquiry into the history of these two patients during the month preceding did not suggest any source of infection ; neither shellfish, watercress, or anything else of suspicious nature was partaken in common. So much for the negative evidence. Twelve years previously, when the family were living in another part of the village, 4 of them, then young children, had contracted typhoid fever. The bedding used by these patients had since that time gradually disappeared, with the exception of one mattress ; this, it was stated, was in occasional use and about a fortnight before the disease manifested itself, was picked to pieces, the hair and flock of which it was composed washed in a lean-to adjoining the house, and then dried on the lawn. Both patients came in contact with it ; one in the washing process, while the other handled the flock afterwards. It must be mentioned that the former, as well as a sister who helped her, escaped the disease on the previous occasion. As far as I could ascertain there was no other probable cause of illness, although for infection to remain 12 years seems almost incredible. After the flock had been washed and exposed for hours to the sun, it did not seem

worth while to go to the considerable expense of a bacteriological examination, so the whole was burnt. The incident, as far as it goes, tends to confirm opinions recently expressed (as the result of investigation) as to the possibility of infection from such sources as flock and other materials used in bedding.

The remaining attacks do not call for much remark ; one was in a visitor, who practically arrived ill ; another was in association with drainage effects ; while a third occurred in an isolated roadside dwelling. In the latter the water supply was from a well, which in rainy weather was liable to surface pollution ; there were no drains in the neighbourhood, and it is doubtful if this were the cause of disease. A fresh supply is, however, to be provided.

Of the 13 cases, 6 were between the ages of 5 and 15 years ; 3 between 15 and 25 years, and 4 over the latter age. One (which ended fatally) was over 60.

WATER SUPPLIES AND WASTE.—The ever increasing demand for profuse water supplies—becoming general even in small country villages—combined with a diminished yield owing to a succession of dry seasons, of which the past summer and autumn was the culminating point, is rapidly bringing to the front the questions of waste and also consumption of water for other than domestic purposes. The difference in the amount supplied per head per day in certain towns of this district shews that a great deal of water is thus expended in some of them ; in small country towns and villages where water for manufacturing and municipal purposes is little required, from 15—20 gallons per head per day should be ample. In one instance indeed, where the water is paid for at the rate of 1/- per 1,000 gallons, and meters installed for everything but domestic use, 10 gallons only was expended in 1905 ; in another, over 30 was found to be insufficient. Others again show a growing consumption, and I am convinced that much of it is wasted. The position is a serious one, because increased supplies involve further loans and higher rates, with no corresponding benefit to the community. Owing to the manifold interests vested in springs and streams, a pure and abundant source is difficult to obtain, while storage in masonry reservoirs is a most expensive proceeding ; further, the smaller the population to be provided for, the greater is the relative cost. It seems to me that public bodies can only be expected to provide sufficient for reasonable domestic use (in addition to that for trade and municipal convenience), and that the tendency to demand unlimited amounts should be checked. The additional burden is to some extent twofold ; not only has the cost of the water itself to be met, but since most of it goes into the sewers, greater provision for dealing

with the increased flow of sewage is entailed at the outfall ; after closets and drains have been flushed, more is unnecessary and even undesirable. In towns where septic treatment has been adopted, the importance of this point is manifest.

There are now 17 public water supplies in the district, 10 of which are owned by this Council, 6 are obtained by purchase from outside public bodies, while 1 is in private hands. My suggestion is that the daily consumption in each should be ascertained and where apparently excessive, appropriate measures taken ; to deal with leaky taps, washers—which are often the sole cause of trouble—might be provided at cost price ; and then, repair being made easy, offenders rigorously punished. For gardens, fields, and certain trades, the meter system should be established ; indeed, if the present extravagance is not checked, the only remedy seems to be in the universal application of this principle, as in the case of gas and electric light. To increase the water rent is merely to invite a larger consumption ; but the knowledge that water wasted brings its own retribution automatically in the shape of a fine, would soon induce consumers to see that their taps were sound and not left to run unchecked. Rents might be based on rateable value as at present, up to an amount equal to 20 gallons per head per day ; this would create a minimum and prevent any temptation to curtail the reasonable use to a point below the sanitary necessities of a household. All extra recorded, coming under the head of luxury, waste, or trade, would then be specifically paid for ; it seems equitable to make a distinction between the amount of water which is indispensable for private domestic use and that which is either a luxury or a source of profit in business. If a cheap and reliable meter were on the market, this system would be greatly facilitated.

It must, however, be borne in mind that defects and carelessness as regards private service pipes and taps are not the sole causes of waste ; defective reservoirs ; old and faulty mains, (which being often laid in close proximity to gas and sewer pipes, are liable to periodical disturbance) all add their quota ; indeed it is not improbable that they are in some towns the greatest defaulters. Further, in hilly districts such as Devon, the source of supplies by gravitation is often at some considerable elevation and the extra pressure to which all parts of the system are subjected, as well as the increased amount yielded by a tap or leak in a given time, all tend to augment the evil and furnish additional reasons for close supervision. This, no doubt, means an extension of the duties of the water bailiff, but if thereby future capital expenditure is prevented, economy alone can result.

In the United States, water supplies are in general much more profuse than in Europe ; indeed, compared with this

country, the increase seems of late years to have assumed enormous proportions. Thus the daily average consumption in Chicago rose from 43 gallons per head per day in 1860 to 190 gallons in 1900, while in Philadelphia during the same period the increase was from 36 to 229 gallons. In Cambridge, Mass., the figures ranged from 44 gallons in 1870 to 70 in 1894. In 1902, the city of Buffalo showed a daily consumption of 271 gallons per head, and Allegheny, of 247. There are a considerable number of towns whose allowance amounts to 160 gallons or more. The reduction of these great figures has naturally engaged the attention of administrators, with the result that the adoption of the meter system is looked upon as the most effectual remedy: this course has been followed in several American cities with success.

In New York this question was carefully investigated in 1899 and 1900 and the result showed that of 115 gallons per head per day supplied, the probable average amount really used was 40, while 65 represented "curable" and 10 "incurable" waste. Among other interesting items it is stated that the actual consumption between the hours of 2 and 4 a.m. was at the rate of 94 gallons per head per day, nearly all of which represented waste. On the other hand in certain cities, Fall River, Laurence--Worcester, Mass.—and Woonsocket, R.I., measurements by meters shewed that the domestic consumption varied from 11.2 to 16.3 gallons. Also during the years 1890—1898 such meters as were in use in New York over an area supplied by the Croton and Bronx aqueducts indicated amounts of 13.8—24.2 gallons.

Even in ancient Rome, an example of one of the most profuse water supplies the world has ever seen—over 300 gallons per inhabitant daily—it was found necessary to exercise careful supervision to prevent waste and theft. As early as 312 B.C. that city had a supply brought in by gravitation from a source 11 miles distant, and by the middle of the first century there were in existence 10 aqueducts of an aggregate length of 289 miles. These distributed their contents among about 250 delivery tanks, from which private houses could alone be supplied. The unit of use ("quinaria") was the amount which would flow from an orifice nine-tenths of an inch in diameter; this was of bronze and had an official stamp signifying that the user had paid for the right to this amount of water. There were other standards of various sizes up to about 9 inches in diameter, a greater water rent being charged according to the size. It is interesting to observe that dishonest persons tried to improve their portion by enlarging the orifices, which were at first of lead, and could be easily manipulated. The orifice had to be inserted at right angles to the side of the tank and no change in the diameter of the pipe was allowed for 50 feet, but the engineers of the day did not

recognize that the amount of discharge varied with the velocity of flow, according to the head of water ; thus the size of the aperture was the only guide ; the fact, however, remains that a primitive system of supply by meter was in force. The administration of the whole was under the charge of a water commissioner, a high official ; the first permanent occupant of the post was the son-in-law of the Emperor Augustus—showing the importance attached to this branch of public life.*

I have taken the above illustrations to show (i) the extravagance in water consumption that may be reached if unchecked, and (ii) that both in modern times and also in one of the greatest of ancient civilizations, a universal system of meters has been advocated and applied as the best remedy.

It will be understood that as compared with a rural district, manufactures and municipal uses (street watering, baths, fountains, &c.,) largely augment this consumption, but even allowing for all this, the waste is by competent engineers considered to be so excessive that the most stringent measures are needed to restrict it.

ISOLATION HOSPITAL ACCOMMODATION.—

Fourteen rural parishes, out of 28, with a population of 12,228, within a radius of 6 miles of Newton Abbot, are in combination with that town in regard to the hospital. In the typhoid wards there is accommodation for 8 adults ; while the iron building affords 12 beds for scarlatinal patients.

The northern and more distant parishes are still unprovided for in this respect, as are also several of those nearer at hand.

The Council have recently resolved, by a majority, to include the whole of the district in the combination ; this has been referred to the County Council for consideration and an enquiry is shortly to be held.

My own view is that for all the parishes within or near say the 6 miles radius, the Newton Hospital should be available, as being within a reasonable distance. For the northern parishes a cottage might be negotiated and kept equipped for the purpose, but it seems rather far to send patients over exposed and often hilly roads into Newton. Dawlish West is in a remote corner of the district and separated from the rest of it by Haldon ; this parish and Dawlish Urban would seem the proper combination in the matter.

Houses are lime washed and disinfected where necessary, and there is a steam apparatus for dealing with clothes and bedding at the hospital. Disinfectants are supplied gratis by

*The facts relating to the supplies of American cities and also of Rome are taken from "Ancient and Modern Engineering," by W. H. Burr, C.E., published by John Wiley and Sons, New York.

the authority and can be obtained at the following places :— Abbotskerswell, Mr. R. Chudleigh ; Bishopsteignton, Mr. R. Berry ; Bovey Tracey, Mr. E. Steer ; Broadhempston, Mr. W. Atwill ; Brookfield, Mr. W. Parker ; Chudleigh, Mr. J. Kelley ; Chudleigh Knighton, Mr. Cornish ; Cockington, Mr. W. Dyer ; Dawlish West, Mr. C. Combes ; Denbury, Mr. T. Binmore ; Ideford, Mr. W. Bowden ; Ipplepen, Mr. A. Luscombe ; Kingskerswell, Mr. E. S. Ford ; Kingsteignton, Messrs. T. Lang and T. J. Partridge ; Lustleigh, Mr. E. Arnold ; Moretonhampstead, Mr. L. Endacott ; Ogwell, Mr. W. Webber ; Stoke, Mr. Jas. Knott ; and Widecombe, Mr. A. Nosworthy.

DAIRIES AND SLAUGHTERHOUSES.—The model regulations of the Local Government Board of 1899, under the Dairies, Cowsheds and Milkshops Order, are in force throughout the district. The dairies, about 120 in number, are systematically inspected by the Sanitary Inspectors and myself. The slaughterhouses are also visited from time to time, and the register of both is kept up-to-date as far as possible. Those dairies which supply milk to the borough of Torquay are also visited by the sanitary authorities of that town, under a special Act of Parliament. A copy of the regulations has been sent to all cowkeepers and dairymen.

OFFENSIVE TRADES.—Urban powers are in force over the whole district in respect to these (Public Health Act, 1875, sections 112—114) and no offensive trade may be established without the consent of the authority ; the Local Government Board model bye-laws applying to such trades are in force. There is only one business in the district which comes under this heading.

HOUSING OF THE WORKING CLASSES.—No houses have been condemned as unfit for habitation during the past year ; one or two which I reported to the Council have since been put in order. No cases of overcrowding have come under notice.

Building is hardly so active perhaps in the aggregate as in recent years, but it is more widely distributed. Kingsteignton, Bovey Tracey, Abbotskerswell, Manaton—especially the two former—all show increased cottage accommodation. At Bovey a plot of land near the station has been laid out for workmen's dwellings and plans passed, though no actual building has commenced ; the site at the top of St. Mary's Street has also further developed. Kingsteignton again is showing progress in the same direction.

In all, 47 new houses were built, 34 of which were working men's dwellings ; the remainder consisted of villas and large country houses.

House to house inspections were carried out at Abbotskerswell, Chudleigh, Livaton, Cold East and Halford, Ogwell, and the Warren.

BUILDING BYE-LAWS—The model regulations of the L.G.B. are in force throughout the district ; it is proposed, however, to adopt the recently issued modifications for Rural districts ; this will legalise the construction of iron buildings. This is now being discussed by the Council.

MIDWIVES ACT.—There are at present 9 midwives on the register ; three of these are certified by training and examination, while the remainder are registered under the section which allowed those who were in practice previous to 1902 to do so, on the certificate of a medical man. The above live at Bishopsteignton, Bovey, Broadhempston, Chudleigh, Ideford, Ilsington, Kingskerswell, Trusham and Widecombe. The midwife at Kingskerswell has intimated her intention to retire from practice. I inspect them twice a year, which I consider sufficient in consideration of the number of confinements they attend in the rural district—in one instance the midwife had not had a case since my previous visit.

On page 5 I give the usual parish table, with deaths from the more important diseases and death rates for each parish. These latter are often misleading, owing to the small populations concerned ; in Buckland for instance a single death adds 11·5 to the general rate. I have, therefore, given in addition the average death rate of each for the last 10 years ; even thus collected the figures are only more approximate to the truth. It will be noticed that the lowest rates (under 10·0)—Buckland, Coombe, Teigngrace and Lustleigh—are all in small rural communities ; while next in order (under 12·0) come Abbotskerswell, Ideford, Manaton, North Bovey and Woodland ; these again are either purely rural or small villages. Of those containing over 1,000 inhabitants, Bovey occupies by far the best position ; its death rate is in fact only a small fraction above the group last mentioned. Bishopsteignton and Kingskerswell occupy a medium position, while Chudleigh, Moreton and Kingsteignton are at the other end of the list, with rates which are almost identical. In the case of the latter two, however, the growth of population since the last census (on which the above rates are calculated) may, when taken into account, effect some reduction.

SANITARY CONDITIONS & PROCEDURE.

Abbotskerswell population 457—acreage 1,486. The public water supply is that of Torquay and is derived from the Wolborough Hill reservoir at Newton Abbot, but there is also a small tank at Aller, for the use of a few dwellings which are

isolated from the village. There is every probability of the minimum consumption necessary to secure a reduction in the cost price of the water being reached at an early date ; 70 houses are now supplied, including a manufactory, which is a large consumer.

There are now two branches of sewer which unite to form an outfall in Mr Chudleigh's orchard ; the Council have decided to extend the western branch past the schools up to the top of Prospect Place, a distance of over 1,000 feet ; at present there are several closets and slop drains (including those at the schools), which are without sewer accommodation and cause nuisance when the streams and springs are low. Several complaints were made during the past year, and there is no doubt as to the necessity of the extension. I have made a house to house inspection of this part of the village and as soon as the new sewer is provided, the drains concerned will be put in order, and such water closets as exist flushed ; several pit privies have been abolished and their place supplied by pails. The new Teignmouth water main passes through the parish, and this will afford a much needed supply to 5 dwellings at Whyddon ; 3 of these (cottages) are without potable water at all.

NEW WORK. Four new cottages have been built above the village on the Totnes road. The drains in connection with 8 houses have been reconstructed and closets flushed. The public water supply has been connected to the school for flushing closets and drinking purposes. 10 privies have been replaced by pails. 288 feet of new sewer and 450 feet of water main has been laid (the latter to accommodate the new houses.)

Infectious disease was represented by two cases of typhoid fever.

The average death rate for the past 10 years is 11.9, a very satisfactory figure ; in 1906 7 deaths give a rate of 15.3.

Bickington population 215—acreage 1,403. Water is scarce, especially in dry weather and in the higher part of the village, and the past summer was no exception to the rule. The schools are without water for drinking purposes or for flushing the closets, which are on the trough system, but not of modern construction. This question was discussed during the previous year, and various schemes for storing roof water were considered, but no action has as yet been taken.

The Lee well, which yields an excellent spring water, has been covered in and protected from any danger of surface pollution ; this constitutes a valuable supply, though at some distance, for several cottages.

1 iron building has been erected.

The parish remained free from infectious disease. 8

deaths give a general rate of 37·2, while the decennial average is 13·4, a much more satisfactory figure.

Bishopsteignton population 1,076—acreage 4,449. Water supply is derived from two deep springs under the Haldon greensand ; there are two covered reservoirs containing together about 120,000 gallons. There is also a third spring with small reservoir, but this is inconsiderable. The water is of excellent quality, but during a considerable part of 1906, the yield was insufficient to meet the growing demands upon it, with the result that much inconvenience was caused ; the series of dry years we are now passing through seems to affect this supply more perhaps than any other in the district, and more water is an imperative necessity. The new Teignmouth scheme, however, will afford a solution of this difficulty in the near future and negotiations are now proceeding with this object ; as the main passes through the village, little capital expense will be necessary. It is remarkable that the abundance of water stored in the Haldon range to the north of the village has very few outlets in this direction.

SEWERAGE. Water closets are general ; the sewers are all piped except a portion above the church ; there is here, however, a good fall. The outfall in West Town meadow, the subject of constant complaint in previous years, has been abolished ; the drainage from the triangle and adjacent houses being taken by a new sewer into the main system of the village, the chief outfall of which is in a field below the vicarage, where it irrigates a meadow ; none of it reaches the river.

NEW WORK. 424 feet of new sewer has been laid down (for the purpose above mentioned). One new house has been built, while the drainage in connection with 8 houses has been put in order. A new water supply was piped down from a spring at some distance to a cottage in the Happy Valley.

Infectious disease was limited to a mild case of scarlatina.

LUTON. A village of about 20 houses in the parish ; has a good and abundant water supply piped down from a Haldon spring ; there is a reservoir containing about 5,000 gallons.

Closets are mostly of the dry system and there are no sewers.

The hamlet of **ASHWELL** is supplied with an excellent spring of water.

The death rate of the parish was 10·2 ; this is the lowest (by a small fraction) of those containing over 1,000 inhabitants ; thus the position attained in 1904 is recovered. The decennial average is 15·4, just a fraction higher than that for the whole district.

Bovey Tracey population 2,694—acreage 7,567. Water supply is from the Yarner spring and is of the excellent quality usually yielded by a granitic formation. The new reservoir on Trendlebeer Down, of 3,000,000 gallons capacity, was little available during the past summer, owing to certain repairs which made it necessary to empty the contents in the spring ; the yield not being then sufficient to refill it. Even now the condition is not entirely satisfactory, and further attention will have to be given to the uppermost part of the cement. The reservoir is, however, nearly full and Bovey will for the first time enter on the summer with a good reserve ; if the town continues to grow at the present rate, this will be none too much.

There is a home reservoir containing 250,000 gallons, above the church, but owing to defects this can only be partially filled.

SEWERAGE. Water closets are general, and as many of them are without flush, owners will be called on to provide this. The new sewerage scheme, which includes the whole town and the suburb of Brimley, with septic tanks and irrigation works, was commenced early in the year, and is now practically completed. Drains which discharged into the old sewers (still to be used for storm water purposes) were connected with the new system as the work proceeded. Others, especially on the south side of the town, which drain into adjacent meadows and in many instances cause nuisance, have now to be dealt with, and their owners required to carry out the necessary alterations. Mr. Rogers and myself have begun a house to house inspection with this object in view and several intimations have been sent out.

House refuse removed as required.

NEW WORK. Sixteen new houses have been built. The site at the head of St. Mary Street, locally known as Spion Kop, from its elevation, is being further developed ; these houses enjoy a southern aspect, and are protected on the north and north-east. Plans for building cottages in a field near the station have been passed, but as yet actual operations have not commenced ; every new cottage is welcome in Bovey. The suburb of Brimley continues to develop mostly in the direction of large villa residences. The drainage in connection with 9 houses has been reconstructed.

BROOKFIELD AND WREYLAND. These villages, though in the parish of Bovey, are geographically more closely connected with Lustleigh. They are supplied from the Trendlebeer Down reservoir.

The sewers form part of the Lustleigh system ; there are two branches, one of which can be flushed from the river.

At **HEATHFIELD**, also in this parish, the long row of cottages (32 in number) is supplied by the Torquay water ; there is a private sewer, with outfall in a meadow.

Bovey has evidently entered upon a era of prosperity and progress, which is well justified by the healthy position and record of the town. Many visitors resort there every summer, and the number of new villas springing up at Brimley shews that permanent residents are constantly increasing. With an excellent supply of pure spring water and a modern sewerage scheme, Bovey can look ahead with every confidence.

The general death rate of the parish was 12·6 for the past year ; this, though fourth of the parishes over 1,000, is an excellent figure. Out of the total of 34 deaths, 1 was due to scarlatina, 4 to the tubercular group, 3 each to cancer and apoplexy, and 2 to violence. The death rate for the preceding 10 years was 12·2, which is easily the best of the larger centres of the district, and is evidence of the health of the parish during this period.

Infectious disease was confined to 4 cases of scarlatina.

Broadhempston population 445—acreage 2,200. Water supply is derived from wells, mostly in the shale, which is the geological formation of the neighbourhood. Last summer and autumn several of these ran very low, though I did not have any definite complaints on the subject.

There is one sewer, nearly all piped, with outfall in an orchard ; there are several water closets, which are as a rule not flushed.

The drainage in connection with 2 houses has been renewed, and one new house has been built.

The parish was free from infectious disease in 1906.

The death rate, both for the past year (27·0) and also the decennial average (21·6) is somewhat high, but on the other hand there has been very little zymotic disease ; the village is off the railway and is at some distance from any urban centre. At present there are no signs of development, and the population is stationary, if not decreasing.

Buckland population 87—acreage 1,493. The waters are of the granitic type, and are pure and abundant. Closets are on the dry system and there are no sewers. 1 death was recorded in the parish, giving a rate of 11·5. For the 10 years 1896—1905 the death rate was only 6·5, lowest of all the parishes ; indeed during six of the above years no fatality was recorded. The population is too small to draw any special inference from this, but nevertheless it is a good record.

There was no zymotic disease in 1906.

Chudleigh population 1,820—acreage 6,128. Water supply is derived from the Kennel spring, about 2 miles from

the town ; this is of the excellent quality usually yielded by the Haldon greensand or the limestone which underlies it, these being the geological characteristics of the locality. The normal yield of this spring is about 70,000 gallons a day ; and it is an interesting fact that while the source is over 400 feet above sea level—about half the maximum height attained by the range of hills above it—there was practically no diminution even during the past summer and autumn. On the other hand springs at a far lower level, such as Holywell, from which the Kingsteignton supply is derived (on the 200 feet contour) were seriously affected. The town is entitled to 40,000 gallons with the option of purchasing more if required, at the rate of 3 pence per 1,000 gallons ; at the beginning of the year the consumption was at the rate of 50,000 and various proposals were considered with the object of either reducing the amount or of raising the water rents and so making up the extra cost to the parish. Though these discussions did not lead to any active measures, they evidently instilled the necessity for greater carefulness into the public mind, and during the last 6 months the extra consumption (above the 40,000 gallons per day) led to an expense of only £3. The new reservoir is now in working order.

SEWERAGE. Water closets are general and the majority of these are now flushed, though some still remain to be dealt with. The sewers are all piped with the exception of rather more than 200 yards of the main sewer ; there are two chief outfalls, which irrigate meadows, but no settling tanks.

House refuse is removed twice weekly.

NEW WORK. 250 feet of the main sewer has been relaid with socketed stoneware piping at the back of Fore Street.

Two new houses have been built ; the drainage in connection with 10 houses has been renewed, chiefly as the result of the house to house inspection which is still proceeding ; a partial reconstruction of the drains of the National School and school house was carried out in the Xmas holidays.

Infectious disease was represented by 5 cases of typhoid fever and a mild attack of scarlatina ; there were no fatalities.

In contrast with the rather high rates of the two preceding years, 22·0 in 1905 and 18·1 in 1904, the general death rate fell to 10·4—a very good figure, and only second to that of Bishopsteignton (10·2) of the larger towns in the district. Of the total 19 deaths, 3 were due to phthisis, while 2 took place in the County Asylum among former residents. The average rate for the preceding 10 years was 17·5, almost identical with those of Kingsteignton and Moreton.

Cockington population 265—acreage 1,451. The village of that name is supplied partly by the Torquay water

and partly from a private source belonging to Mr. Mallock. At Edginswell there is a public well, but owing to the introduction of the Torquay water this is now but little used.

Shiphay Collaton has one public well of good quality. Closets generally are on the dry system ; there is one short sewer at Edginswell.

The drainage of 1 house has been reconstructed.

No infectious disease was reported in 1906 and the 3 deaths registered in the parish resulted in a death rate of 11·3 per 1,000 ; the decennial average being 16·6.

Coffinswell and Dacombe population 201—acreage 1,152. There are three public dipping springs, two at the former village and one at the latter. These are good both in quantity and quality ; to close them in and provide pumps would effect an improvement, though the amount of water, which creates a constant and considerable overflow, soon carries away any impurities.

There are no sewers and closets are generally on the dry system.

A new drainage system with flushed water closets has been installed at the schools, besides other minor improvements ; this removes an insanitary condition of long standing.

The drains in connection with one house have been reconstructed.

The parish was free from zymotic disease.

1 death was registered ; the death rate was 5·0, while that for the years 1896—1905 worked out at 13·0.

Coombe and Haccombe population 358—acreage 2,004. The water is derived from private wells, and I had no complaints of scarcity during the past year.

Shales and limestone are mostly the geological features.

The question of obtaining a public water supply from the Teignmouth main, which passes through the village, has been mooted, but no action has as yet resulted.

There are no sewers and few water closets ; a certain amount of drainage reaches the brook, which runs through the village, but since this has been cleaned out no further nuisance has been reported.

No sanitary work of importance was carried out in 1906.

The parish remains free from infectious disease.

Eight deaths (2 from cancer) give a rate of 22·3 per 1,000 ; in 1905, however, no death was recorded, and the decennial average works out at 7·7—second only to Buckland and showing the healthy record which the village has enjoyed.

Dawlish West population 678—acreage 3,870. Cofton and Middlewood are supplied with water from Starcross ; Westwood by a well. These are not very satisfactory, owing

to the pressure in the former two cases being insufficient to reach the houses on the higher levels. and therefore to the absence of means to flush closets and sewers.

The houses at Mount Pleasant are supplied by deep wells from the sandstone, which constitutes the general formation of the locality. The hamlet of Dawlish Water, including several dairy farms, also depends on wells ; in one or two instances I found on enquiry there had been some shortage during the summer, but generally speaking there were no complaints. The Duck Aller scheme has been slowly maturing during the year ; negotiations in connection with purchase of the water and land on which to construct the reservoir have taken a somewhat long course ; but these preliminary difficulties have now been surmounted and the engineer (Mr. Dobell) has the plans in hand ; the Local Government Board will shortly be applied to for an enquiry.

The sewers from the ravines at Westwood and Middlewood are discharged into separate tanks at the level of the stream ; these are cleaned out periodically ; the Cofton sewer discharges into tidal waters. Water closets are general, but few flushed.

Two new houses have been built ; the drains in connection with 3 dwellings have been put in order ; 2 earth closets have been provided. I made a house to house inspection of 24 wood and iron bungalows on the Warren during the summer ; this sandy peninsula is growing in favor as a holiday resort ; the houses on it are, however, only inhabited for a few weeks in the year. Rain water is caught from the roofs and this constitutes the principal water supply, while for drinking purposes it is brought from Starcross or Exmouth. Drainage does not present much difficulty, as the houses are all detached, with considerable distances between them, and the sands readily absorbs everything.

Except for whooping cough, with one fatality, the parish was free from infectious disease during 1906. The death rate for the year was only 8·8, while the ten year's average worked out at 12·2—both excellent figures.

Denbury and Torbryan population 448—acreage 3,002. The water supply is derived from two adjacent springs ; there is a small reservoir containing about 10,000 gallons. From this it is distributed to the village by means of standpipes, only one or two houses being directly connected to the main. This supply has in former summers shown some shortage, but notwithstanding the late droughts, held out much more satisfactorily in 1906, and met all requirements—except that closets are not flushed. This was, I think, partly owing to better management, and partly owing to the discovery and mending of a leak. The Rectory and two other large houses have an independent supply by gravitation.

There are two main sewers which unite to form a common outfall, discharging into a fissure in the limestone rock, upon which formation the parish is mainly situated.

100 feet of new sewer was laid. The pit privies in connection with the school are shortly to be replaced by pails, in the absence of a sewer and water for flushing purposes—this will remedy a long standing nuisance.

The village of Torbryan has a good and abundant water supply brought in by gravitation ; closets are on the dry system and there are no sewers.

Zymotic disease was represented by a mild case of diphtheria. The general death rates for the past year and the decennial period 1896—1905 were 11·2 and 15·6 respectively, the latter being a fraction higher than that for the whole district.

Hennock population 711—acreage 3,299. The village of that name occupies an isolated position near the Torquay watershed, at an elevation of about 700 feet above sea level. The improvement of the water supply, which has hitherto mainly consisted of a spring in the vicarage garden, conducted by piping to a shute in the village, has been under consideration. As a result a small tank of masonry has been constructed to store the yield of a spring about 200 yards south of the main part of the village ; at the end of October the flow amounted to about 500 gallons a day, and several cottages will be thus accommodated. It has been also proposed to provide a tank at the source of the main spring above the vicarage and distribute the water by stand pipes, but this has not yet been carried out.

There is a sewer in Bell Lane, but privies are general.

CHUDLEIGH KNIGHTON, with 73 houses, lies in the Teign Valley, part of which is included in the parish. The water supply is that of Torquay and there is a reservoir which contains about 12,000 gallons.

62 houses have now taken in the water ; several of the closets have been flushed. There is one sewer which discharges into a water course, which is dry in summer and hence gives rise to nuisance ; the Council have determined to extend this for a distance of about 300 yards, and the work is to be begun at an early date.

The drainage system in connection with 4 houses has been put in order ; the water supply of Hyner Cottages was piped down, a distance of 150 yards.

Infectious disease was limited to a single case of typhoid fever.

There were 12 deaths during the year, giving a rate of 16·9 per 1,000 ; the decennial average, 12·9, shows, however, a much better result.

Ideford population 254—acreage 1,440. The village is situated on the western slopes of Haldon, from which it obtains a pure and abundant water supply. The new reservoir is now in working order; the spring has shewed signs of decreasing of late, but not to the extent of causing shortage.

The hamlet of **OLCHARD**, about a mile distant, depends on wells, some of which are precarious in dry weather.

There are no sewers and closets of the privy type.

As the stream which irrigates the gutter running through the village failed somewhat in the autumn, the bricking was continued up to the schools to ensure that all available water was made use of; this adds considerably to the cleanliness of the main street. The drainage of 1 farm was reconstructed.

The parish was free from zymotic disease.

There were no deaths during the past year and the decennial rate was only 10·9; this maintains the healthy reputation the village has always enjoyed.

Ilsington population 886—acreage 7,843. This parish has a large area and contains several villages. Like that of Hennock, it lies partly on high ground of granitic origin and partly on the low-lying clay formation of the Teign Valley. The village which gives its name to the district is 650 feet above sea level, with about 25 houses, mostly of the cottage type; it derives its water supply from a stream rising on Haytor Down; this during an open course of over two miles runs through cultivated fields and at times by the roadside, and is therefore after rain so muddy as to be unfit for drinking. The school, with an average attendance of about 100 children, has no water on the premises, and the closets are of the trough type, discharging into a cesspit. There is also an increasing demand for a supply at Haytor village, where there is a growing colony of villas and lodging houses; some of these resort to wells, while others (belonging to one property) depend on a spring just below Haytor Rocks, which is piped down; this is now taxed to its utmost capacity in the summer months.

PINCHAFORD, close by, with a farm and 6 cottages, have to go some little distance to get drinking water from the stream which supplies the village, while **HIGHER BRIMLEY** is perennially short in dry seasons (a farm and 8 cottages).

In the Teign Valley below lie **LIVATON**, **COLD EAST** and **HALFORD**. I made a house to house inspection of these last summer, including 26 dwellings at Livaton and 36 in the other two. Most of the drainage that exists was put in order a few years since; except that water is needed for flushing closets and in some instances for domestic use as well, there is nothing to call for comment.

These are nearly all dependent on wells ; I found two supplying about 15 cottages between them, much improved on analysis, and there is one belonging to some charity property at Halford which is quite potable. Blackpool School, with nearly 100 children, has a shallow well (about 6 feet deep) which gives a very fair analysis, but has been dry for some weeks in the past two years. An adjacent slaughterhouse depends on an open water course.

Plans for the proposed scheme, to embrace all the above villages and hamlets, have been prepared and an enquiry asked for ; this has not yet been held. It is stated that the parish has been entitled to the use of the water from the granite shute on Haytor Down for generations past ; the cleaning out of the course at stated intervals was until recently a public ceremony. For the higher levels, at all events, there is no other available source (except by sinking wells and pumping—too costly to be practicable) ; in fact, it is not so much a new supply which is under consideration, as the protection from contamination and extension to the lower levels of that already in use.

There are no sewers and most of the closets in the above mentioned villages are of the privy type. There are, however, more water closets at Livaton, but as a rule without flush.

A considerable improvement has been effected in the disposal of the sewage at Haytor buildings ; the higher tank or cesspit, often a nuisance, has been abolished and the whole drainage taken to one septic tank ; the authority negotiated a piece of land of about $\frac{1}{2}$ acre on which to treat the effluent ; this seems to work very well, and complaints have ceased.

3 new houses have been built ; the drainage of 1 dwelling has been renewed.

No zymotic disease was reported.

The death rate for the past year was 12·4, and that for the previous ten years 13·4 ; both good figures.

Ipplepen population 789—acreage 2,887. An upland village, on a shale and limestone formation, hitherto dependent on wells, mostly shallow and of inferior quality. The new water supply, including a reservoir, from the Paignton source, is approaching completion, and should be available during the ensuing summer.

There are a number of closets as yet without flush ; these will be dealt with on the advent of the water. The sewerage is of modern construction and is all brought to one outfall in a meadow.

The drainage of 2 dwellings was renewed.

There was 1 death from measles, but no other zymotic disease was reported.

Out of a total of 14 deaths, giving a rate of 17·7 per 1,000, three were in the Union House—a large proportion. The death rate for the decennial period is 13·5.

Kingskerswell population 1,027—acreage 1,797. A large residential village nearly midway between Newton and Torquay, whose water supply it shares ; there are still a few wells in use. Water closets are general, and are being flushed by degrees ; there are two sewer outfalls, both of which have settling tanks, whose overflow irrigates meadow land and is managed by the authority. The sewers are piped throughout.

1 new house was built ; the drainage in connection with 5 dwellings was renewed.

WHILBOROUGH, a hamlet in this parish, has a public well of fair quality, but the water is rather scanty in summer.

Some difficulty has arisen in connection with the water supply of a farm at Stoneycombe ; the formation is limestone and the choice lies between filtration of the stream, either artificially or by sinking a well within a few yards of its bank ; or collecting rain water from the roofs. Neither are very satisfactory, but there is no alternative.

There was an outbreak of whooping cough, with one fatality, necessitating the closing of the schools, in the spring. Six mild cases of scarlatina were also reported.

The general death rate for the year was 10·7 ; of the larger centres this occupies the third place, but is only a fraction behind the foremost. The decennial average worked out at 15·8.

Kingsteignton population 1,942—acreage 3,975. Water supply is derived from the Holywell spring in Ugbrooke Park and is of excellent quality ; there is a reservoir just below the intake of 85,000 gallons capacity. The parish has hitherto been entitled to one-fifth part of the yield ; thus the available amount varied with the season. Lord Clifford, who has always readily met the wishes of the Council in this matter, has, however, now given the parish the definite quantity of 43,000 gallons a day, which constitutes about one-fifth of the whole in normal times ; if more is needed it can be purchased at 3d. per 1,000 gallons.

The sewers are all piped with the exception of the main artery, which is a large 2-foot culvert, extending from the centre of the village to the outfall. Owing to complaints as to the increasing nuisance arising from the Gestridge sewage discharging into Deadlake, a new 12 inch sewer was laid to take this down to the main outfall, a distance of 1,550 feet ; the little fall available and the fact that the road and a leat had to be crossed created some difficulties, but these were surmounted, and the scheme, which includes a septic tank, is now working satisfactorily. Thus all the Kingsteignton sewage is now dealt with at one outfall and none of it reaches the estuary, except after meadow irrigation.

NEW WORK. Besides the sewer mentioned above the drainage in connection with 18 houses was renewed, including 12 closets flushed. Hand-flushed closets in the town are now reduced to a few units, which will in time all disappear.

230 feet of new water main was laid.

Six new houses were built ; this is a decline in comparison with recent years, though probably only a temporary one.

PRESTON and **SANDYGATE**, hamlets in the parish, are well supplied with water from the Kingsteignton main.

Zymotic disease was limited to one case of typhoid fever and two mild scarlatinal attacks.

The general death rate was 18·0, identical with that of 1905. Of the total 35 deaths, 2 were due to diarrhœa, 5 to tubercular diseases, 3 to cancer, and 3 to apoplexy ; while 3 took place in the Union House and 1 in the County Asylum among former residents. The average rate for the preceding 10 years was 17·3—much on a par with Chudleigh and Moreton.

Lustleigh population 400—acreage 2,978. This village lies in an elevated valley about 300 feet above sea level ; granite is the main geological feature. Water supply is derived from the **S. Harton** spring, and is soft, pure and abundant ; the reservoir was overflowing during the whole of last summer ; it has a capacity of 50,000 gallons ; 50 houses have now taken in this water. The provision of a pressure reducing valve was found impracticable, and the only other alternative is that pipes and other fittings should be of adequate strength, as in most cases, owing to the high level of source and reservoir, considerable strain is put upon them.

The sewers connect with those of Brookfield and Wreylan, and have an outfall in a meadow south of the village ; this is managed by the authority.

One new house was built and drainage improvements carried out in connection with 7 dwellings.

Zymotic disease was represented by single cases of typhoid fever and diphtheria ; the former is noted with some detail on page 14. Late in the year there was one fatality from measles.

Seven deaths give a general rate for the year under review of 17·5 per 1,000 ; the decennial average is, however, much more favourable ; this is only 9·1 and is evidence of a most healthy record.

Manaton population 315—acreage 6,422. A moorland and sparsely populated parish, at an elevation of 800 feet above sea level ; depends on private wells chiefly. The waters are of granitic type and are generally abundant and of good quality. There is a short sewer crossing the green, but closets are mostly of the privy type.

4 new houses were built ; the drainage of 1 house was reconstructed.

The water supply of Houndtor Farm has been improved and a sand filter provided.

There were 8 cases of scarlatina, confined to two isolated houses; an attack of typhoid fever in a visitor, which originated outside the district, was also reported.

Low death rates of 12·7 (for 1906) and 10·3 (decennial average) are in keeping with the position and character of the parish.

Moretonhampstead population 1,541—acreage 7,910. This moorland town lies at an elevation of nearly 700 feet above sea level. The water is derived from various granitic springs at Moor and is soft and pure; hitherto there has been an abundance, but the margin of capacity was reached during the past autumn, and some care was needed, though there was no actual shortage. The Hill spring, which has been declining for some time past, gave out altogether, but it was found that the land tile pipes which connected it with the reservoir had become blocked with roots; these were replaced by 600 feet of glazed and socketed stoneware pipe, the joints being made with cement; this then yielded another 2,000 gallons a day.

Water closets are general; they are as a rule well flushed.

In the absence of any long periods of wet and the ingestion of quantities of storm water, the sewerage system has worked fairly well. The Council has instructed Mr. Bellamy to prepare plans, with a view to meeting the requirements of the Local Government Board. It is to be hoped that this question will now be finally settled.

House refuse is removed twice a week.

NEW WORK. Besides the renewal of the Hill spring pipes above mentioned, 500 feet of new water main and 725 feet of new sewer were laid.

Two houses were built and the drainage of one dwelling put in order.

The hamlet of DOCCOMBE, on the Exeter Road, about 750 feet above sea level, is supplied with water by one spring and several wells, generally of fair quality.

Infectious disease was limited to a mild case of typhoid fever and also one of scarlatina.

The death rate of the year was 20·8, a somewhat high figure. Of the 32 deaths registered, no less than 5 were due to cancer and 3 to violence; apoplexy was responsible for 2 and infantile debility for 1; there was only 1 fatality from tubercular disease, while 3 former residents died in the Union house.

The decennial average was 17·5, being practically the same as Chudleigh and Kingsteignton.

North Bovey population 398—acreage 5,589. This parish is on the border of the moor and adjoins that of Moreton. The village has one public well on the green, besides private wells.

Closets are mostly on the dry system.

One new house was built.

The parish remains free from zymotic disease.

Only 2 deaths were registered in 1906, giving a general rate of 5·0 per 1,000 ; that for the preceding 10 years worked out at 11·2.

Ogwell population 250—acreage 2,089. The water supply is derived from a deep well about a mile from the village ; the water from this is pumped into a reservoir by a windmill and thence distributed by means of standpipes. This source has during the past few years become more and more unsatisfactory in the summer for various reasons ; it requires both wind and water and when one or other fails shortage results, especially on the higher levels supplied ; then more water is used and the casks and other contrivances for storing soft water from roofs have gradually disappeared. I think there is probably enough to supply the village for domestic purposes, in the absence of closets which require flushing ; but it is unequal to the additional demand made upon it by several cattle troughs which are also connected.

It is fortunate that there is an excellent and abundant spring in the centre of the village, provided with a pump ; but the houses nearest to this are at the lowest level, and can get water from the stand pipes long after those living at a greater distance and a higher elevation. There is also another spring in Mr. Will's orchard ; this is an open dipping spring and the water is not of quite such good quality, but it is resorted to in time of need by several of the cottagers.

Probably the best solution would be to deepen the well if necessary and provide an oil engine to supplement the windmill ; under present circumstances the only thing to be done is to restrict the use of the present supply to the upper part of the village ; leaving the others to be accommodated by the pumps to which they are most adjacent.

Closet accommodation is of the privy type and there are no sewers.

The school closets and drains were entirely reconstructed during the summer holidays, the former hand-flushed and defective pans being replaced by pails ; these have been hitherto extremely well looked after by an adjacent nurseryman.

The drainage of two other buildings has been put in order.

I made a house to house inspection of the village in the summer, with the following results.

The cottages are mostly of old type with cob walls and thatched roofs ; a few are either slated or have galvanized iron. All have garden accommodation and there is plenty of open space ; indeed there is only one row of 6, the others being either detached or semi-detached. There were in all 30 (besides bakery, blacksmith's and 4 farms). In these were living 71 adults and 43 children under 15, in all 114 persons, occupying 117 rooms (exclusive of back kitchens or outhouses), an average of just under 1 person per room. The average per house was 3·9. The largest number in one dwelling was 3 adults and 5 children, with 3 bedrooms, so that overcrowding was practically non-existent. The property has been considerably improved of late years, though there are still some matters to be attended to ; most of the cottages are dry and clean, but, of course, not up to modern requirements ; on the other hand, rents are low, and besides accommodating labourers on the adjacent farms, several are occupied by artisans working in Newton.

Zymotic disease has fallen somewhat heavily on the parish and included 9 cases of diphtheria, with 3 deaths ; while a few weeks later 6 scarlatinal attacks, though these were all of mild type, were reported.

Thus there were 7 deaths in all, giving a rate of 28·0 per 1,000 ; the decennial average worked out at 14·9, or about half the preceding figure.

Stoke population 463—acreage 2,167. There are two public pumps and many private wells ; this is a sandstone district, which generally yields a plentiful supply, and I had no complaints in 1906.

There is one small sewer, which discharges into the brook, but there are few water closets and these as a rule are hand flushed.

The hamlet of HIGHER GABWELL is supplied by wells.

MAIDENCOMBE, which is endowed with an attractive position on cliffs overlooking the sea, has also a few wells, but the houses on the higher levels depend largely on rain water storage. If a public supply could be negotiated, there are few localities in the district which possess greater prospects of development.

Two new houses were built ; the drainage of two others was put in order.

The parish remains free from infectious disease.

The general death rate was 10·8 per 1,000 ; the average for the preceding 10 years being 16·7.

Teigngrace population 190—acreage 1,496. A small and sparsely populated parish in the Teign valley. The water is mostly derived from wells, but these are generally of the

moderate or indifferent quality yielded by the clay formation of the neighbourhood

The schools and 6 cottages adjoining have at present to go some little distance for drinking water, but it is proposed to store the nocturnal flow from a spring at Staplehill, which is now piped to a farm about 200 yards from the school buildings ; this will effectually solve the difficulty.

No sanitary work was carried out in 1906.

There were 3 mild cases of scarlatina ; the general death rate for the year was 15·8, caused by 3 fatalities ; the decennial average was only 8·4, which is third best in the district

Trusham population 165—acreage 625. This is considerably the smallest in the district in area, and, except Buckland, the least in population. The village occupies an isolated position on the western slopes of Haldon at an elevation of about 300 feet. There is one public dipping spring of very fair quality ; this is generally low in summer, and the past season was no exception to this rule. The deep well (about 65 feet) above the vicarage was cleaned out recently, but I gather from old residents that the yield from this has considerably diminished of late ; it is the only convenient supply for the schools and adjacent cottages.

There are no sewers and closets are of the privy type.

Some little discussion has taken place as to whether the discharge of two or three slop drains into the water course caused a nuisance, and it was suggested by Mr. Rogers and myself that a better channel should be made to facilitate the flushing of the whole by the small quantity of water available ; a committee made a visit of inspection, but no action was taken.

The quarry industry near the station continues to develop ; altogether about 80 men are employed.

The parish remains free from infectious disease ; 1 death gives a general rate of 6·0 per 1,000, while the decennial figure worked out at 14·0.

Widecombe population 657—acreage 10,786. This moor parish is the largest in area in the district, and has a considerable proportion of uncultivated land. The villages of Lower Town, Widecombe and Ponsworthy are the chief centres of population. The granite formation of the neighbourhood yields, generally speaking, pure, soft and abundant waters. Many of the houses at Widecombe are supplied by a spring on the glebe land, brought in by gravitation ; there is also a dipping spring (with overflow) of very fair quality.

PONSWORTHY has two good springs ; at Lower Town the chief spring is at some little distance below the cottages it supplies ; if this were closed in and a pump provided the water

could be made much more accessible. There are three different owners to be negotiated, and this constitutes the principal difficulty.

There are few water closets and no sewers ; privies are general.

The drainage in connection with one house was put in order.

Zymotic disease was limited to a scarlatinal attack in a visitor.

As in 1905, twelve deaths were registered, giving a rate of 18·3 per 1,000 ; the decennial average was 12·8.

Woodland population 170—acreage 1,634. This is another parish of purely rural type, in which moreover there are no centres of population ; shales and slates are the predominant geological features. Water is derived from wells and is generally abundant.

The drainage of 2 houses has been put in order.

The parish remains free from infectious disease. One death yielded a rate of 5·9 per 1,000 ; the average for the preceding 10 years being 11·7.

The detail of Mr. Rogers (the Sanitary Inspector) report have been incorporated under the different parishes, but I append the usual table showing the work done in each for purposes of comparison.

44 legal and 90 intimation notices were served during the year ; most have been complied with, while the others are being followed up. 47 houses were built during the year, 34 of which were workmen's cottages. 3,337 feet of new sewerage and 1,180 feet of water main was laid down ; while the drainage in connection with 90 houses was put in order ; 57 closets were flushed and 13 pit privies were converted into earth closets ; 43 rooms were fumigated (mostly after infectious disease) with the formalin lamp by Mr. Rowden, the assistant inspector.

A separate journal for each parish was instituted at my suggestion in the beginning of the past year ; in these are entered all sanitary work done, including new sewers, mains, drain testing and results, reconstruction of drains, fumigation or limewashing of rooms, and other minor matters. The entries are quite brief, but will be sufficient to facilitate reference and also to provide some sort of parish record. The books are numbered (28 in all), each parish coming in its alphabetical order.

The following is a list of the more important works under construction in 1906, or contemplated in the immediate future.

TABLE SHOWING SANITARY WORK CARRIED OUT IN THE DIFFERENT PARISHES IN 1906.

PARISHES.	New houses built.	Water supply.	New sewers (in feet)	Old Houses.				Drain tests.	Rooms fumigated and disinfected.	REMARKS.
				New drains.	Houses served.	Closets provided or flushed.	Earth Closets.			
Abbotskerswell	4	450 feet new main	288	4	8	9	10	7	...	School closets reconstructed and flush provided.
Bickington	1	Lee well enclosed	...	...	...	...	...	...	...	
Bishopsteignton	1	...	424	...	...	...	...	...	...	
Bovey Tracey	16	...	new scheme	5	9	12	...	5	2	
Broadhempston	1	...	...	2	2	...	...	2	...	
Buckland	...	...	...	...	...	...	...	...	...	
Chudleigh	2	...	250	7	10	12	...	11	4	
Cockington	...	...	...	1	1	...	...	1	...	
Coffinswell and Dacombe	...	...	...	1	1	...	...	1	...	
Coombe and Hacombe	...	...	...	...	...	...	...	...	...	
Dawlish West	2	...	...	2	3	...	2	2	...	Pail system is to replace pit privies at school.
Denbury and Torbryan	...	...	100	2	4	4	...	2	...	
Hennoek	...	Tank built at Coombe's Cross.	...	1	1	...	...	1	...	Street irrigation gutter has been bricked up to the schools. New outfall works at Haytor Buildings.
Ideford	...	...	...	1	1	...	...	1	...	
Ilsington	3	...	...	...	...	...	...	...	...	All sewage brought to one outfall with septic tank.
Ipplepen	...	...	...	2	2	...	...	2	6	
Kingskerswell	1	...	...	4	5	1	...	6	...	
Kingsteignton	6	230 feet new main	1550	6	18	12	...	9	2	
Lustleigh	1	...	...	6	7	4	...	8	5	Hill water source cleaned and new pipes laid.
Manaton	4	...	...	1	1	...	...	1	2	
Moretonhampstead	2	500 feet new main	725	1	1	...	...	4	...	School closets and drains reconstructed.
North Bovey	1	...	...	...	2	...	...	...	18	
Ogwell	...	...	...	2	2	...	...	1	2	
Stoke	2	...	...	...	...	...	...	2	...	
Teigngrace	...	...	...	...	...	...	...	...	...	
Trusham	...	...	...	...	1	...	1	...	...	
Widecombe	...	...	...	...	1	...	...	1	1	
Woodland	...	...	...	2	2	...	...	2	...	
Total.....	47	1180 feet new main	3337	58	90	57	13	95	43	

Abbotskerswell—Sewering upper part of village, to be done in March next.

Bishopsteignton—Sewage all brought to one outfall.

Bovey Tracey—New sewerage scheme nearing completion.

Dawlish West—New water supply under consideration.

Hennock—Improvement of water supply of Hennock village begun.

Ilington—Plans for a comprehensive water scheme sent to L.G.B.

Ipplepen—Public water supply approaching completion.

Kingsteignton—All sewage brought to one outfall and septic tank provided.

Moretonhampstead—Further plans for completion of sewerage scheme are being provided.

It will be seen from the above (as well as the parish records) that the Council is still proceeding steadily along the path of sanitary reform ; and at the present rate of progress all the more considerable villages in the district will at no distant date have their own water supplies and drainage disposal systems. There are 28 parishes, 5 of which are without any centres of population to provide for in these respects ; when the works in the above list are completed, 16 of the remainder will have water brought in by gravitation, while in 13 sewer accommodation is in existence. In small parishes the carrying out of these public works entails a great burden ; and it would greatly encourage rural sanitary reform if the cost were spread over a wider area.

SCHOOL SANITATION. Of recent years much attention has been paid to this important matter, and many of the public elementary schools, of which there are 35 in the district, have been brought up to modern requirements.

The following schools have a water closet system of recent (or fairly recent) type, with water for flushing and drinking purposes on the premises :—Abbotskerswell, Luton (Bishopsteignton parish), Bovey (National), Chudleigh (British), Coffinswell, Coombe (from a well), Blackpool (Ilington parish), drinking water from a shallow well, supply from which is precarious in summer, Kingskerswell, Kingsteignton (National and British), Lustleigh, Manaton (from a well), Moreton (boys and girls separate schools), Stoke (from a well).

Dawlish West and Ipplepen have modern drainage and flushing arrangements from wells, but both await water supplies for drinking purposes.

Bishopsteignton and Chudleigh (National) have water for drinking and flushing closets, but in both cases the type

of closet is somewhat obsolete ; at Chudleigh the underground drainage has been reconstructed quite recently.

In all cases where wells constitute the supply, force pumps are provided for filling the flushing tanks.

In the next category come those with conservancy system (pails) ; being small rural schools, where a sewer and water for flushing closets are not both available. These are Heathfield, Cockington, Ideford, North Bovey, Ogwell, Teigngrace, Trusham, Widecombe, Leusden.

Chudleigh Knighton also has a pail system, but during the last two years water and sewer have become available.

I have on my visits found these as a rule well kept ; and have had no complaints concerning them. Of the above all have a water supply for drinking purposes on the premises, except Cockington, North Bovey, Teigngrace, Trusham and Widecombe, and even these have no very great distance to go.

The schools which most want attention are Bickington, trough closets of old construction which discharge into a cesspit, with no water for drinking or flushing purposes ; Broadhempston, pit privies, no water ; Denbury, pit privies ; these are, however, shortly to be replaced by pails ; Hennock, trough closets without proper flush ; but there is prospect of a better water supply being available ; Ilsington, trough closets and cesspit without water for drinking or flushing purposes, causing nuisance at times ; this also awaits a long hoped for water supply.

British School, Bovey, has water for drinking and sanitary purposes, but closet accommodation is inadequate ; there is very little playground and the buildings are cramped.

I append the report of Mr. R. Rowden, Assistant Sanitary Inspector, on the working of the Factories and Workshops Act :—

Report on the Factories, Workshops, Bakehouses and Slaughterhouses in
the Newton Abbot Rural District for the year ending
December 31st, 1906.

My inspection includes :—

Builders	...	...	...	...	...	...	...	8
Coachbuilders and Wheelwrights	...	..						10
Laundries	...	...	...	...	...	...	...	12
Milliners, Tailors and Dressmakers	...	...						17
Saddlers	...	...	...	...	...	...	...	5
Smithies	...	...	...	...	...	...	...	6
Bakehouses	...	...	...	...	...	...	...	19
Gas Works	..	...	...	...	...	...	..	1
Boot Repairers	...	...	...	..	...	..		1
Plumbers	...	..	...	...	...	...	..	3

making a total of 82 an increase of four

The above have been visited some two or three times during the year and have been found very satisfactory, with regard to light, ventilation, cleanliness and cubic space ; in no case was overcrowding found, or out-workers employed.

SLAUGHTERHOUSES.

Total number in district is 32. All these buildings are well constructed, possessing good floors ; the walls have generally a smooth surface, composed of cement rendering, carried to a height of about 6 to 8 feet. Other are constructed of corrugated iron, the interior surface of some of these being tarred. The light and ventilation is good. The water supply is chiefly derived from the different public sources, failing that, by pumps. The whole have been inspected some two or three times, and are periodically lime-washed.

In addition I have, by request of the Medical Officer of Health, fumigated 43 rooms in the different parishes, and applied tests to the drains of 95 houses.

R. J. ROWDON,

Assistant Sanitary Inspector.



II.—NEWTON ABBOT URBAN.

PHYSICAL CHARACTERS. The bulk of the town is situated in the level basin of the Lemon, which debouches on to the Teign valley; some of the lower houses stand on the alluvial soil adjacent to the delta of those rivers. This valley is surrounded by hills from 200 to 300 feet high, on which numerous villa residences have been built. Of late years the town proper has been gradually extending on the lower slopes of the hills, and a new suburb is growing up on the Torquay or southern side. The main streets are as a rule wide; there are comparatively few cross streets connecting them. In the older parts of the town some of the intervening spaces are occupied by courts—22 in all—at the present time containing from 1 to 18 houses; others have disappeared, and this class of dwelling is slowly going out of occupation. The geological formation of the hills on the Wolborough or southern part of the district is greensand, gravels, and clay; while in the Highweek or northern parish shales predominate.

The district comprises the parishes of Wolborough, Highweek and Milber (the latter being a portion detached from Combe in 1901), a total area of 4,132 acres; the estimated population for the year under review is 13,250. At the last census there were 2,704 inhabited houses, 4·6 persons per house.

VITAL STATISTICS. The number of deaths registered during 1906 was 187, of whom 87 were in males and 100 in females, equal to an annual rate of 14·1 per 1,000. This is 1·1 below the average rate for the preceding 10 years, and 2·2 less than that of 1905. Of the above deaths, 22 took place in the Union House and 4 in the County Asylum in persons belonging to the district; if these are excluded, as formerly was the custom, the figure is reduced to 12·2. The deaths in the four quarters of the year were 49, 47, 36 and 55, giving rates per 1,000 per annum of 15·0, 14·4, 11·0 and 16·8 respectively; thus the last quarter showed the highest mortality, while December (23), September (21), February (20), and April (20) were the most fatal months. On the other hand only 6 deaths occurred in July, and 9 in August.

CHIEF CAUSES OF FATALITY. Zymotic diseases, 20 deaths ; influenza, 3 ; anthrax, 1 ; other septic diseases, 1 ; constitutional diseases, 36, of which 10 were due to cancer and 18 to phthisis ; diseases of the nervous system, 15 ; of the respiratory system, 23 ; of the circulatory system, 27 ; of the urinary system, 4 ; of the digestive system, 14 ; of parturition, 1 ; of the generative organs, 1 ; skin, 1 ; malformation, 1 ; infantile debility, 5 ; premature birth, 6 ; old age, 22 ; and accident, 6.

COMPARATIVE TABLE.

DEATHS FROM	1906.	Average of years 1896-1905	1905.	1904.	1903.	1902.	1901.
Small Pox	...	...	...	...	...	...	...
Measles	3	3.5	5	...	5	8	3
Scarlatina	...	...	...	...	...	...	...
Whooping Cough	1	2.7	6	2	...	1	10
Diphtheria	...	3	...	...	...	...	2
Continued Fevers (Typhoid, &c)	4	2.1	1	..	2	3	4
Diarrhœa	12	4.6	...	9	2	8	4
SEVEN CHIEF ZYMOTICS :	20	13	12	11	9	20	23
Phthisis	18	14	16	22	13	25	10
Other Tubercular Diseases ...	7	4.5	7	5	6	5	4
Bronchitis, Pneumonia, Pleurisy	22	21	27	25	22	18	27
Heart Diseases	25	16	19	22	26	20	8
Cancer	10	11	10	21	16	10	17
Violence	6	4.5	6	3	6	4	9
All other Diseases	79	85	117	92	92	90	80
Total deaths	187	169	214	201	190	192	178
Estimated Population ...	13250	11102	13100	12950	12800	12650	12518
General Death Rate	14.1	15.2	16.3	15.5	14.8	15.2	14.2
Zymotic Death Rate	1.5	1.2	.92	.85	.70	1.6	1.8
Total Births	329	264	290	297	315	279	284
Birth Rate	24.8	23.8	22.1	22.9	24.6	22.1	22.7
Deaths under 1 year	35	33	38	34	33	38	39
„ between 1 and 5 years	9	12	17	10	15	7	13
„ over 65 years	71	55	79	74	68	61	53
„ under 1 year to 1000 bths.	106	125	131	114	105	136	137
Deaths in Union House ...	96	63	91	81	65	64	54
Deaths in Union House belong- ing to District	22	14	25	26	17	12	7
Deaths in County Asylum be- longing to District	4	...	5	...	...	...	...

AGE INCIDENCE. Under the age of 1 year there were 35 deaths ; between 1 and 5 years, 9 ; between 5 and 15 years, 6 ; between 15 and 25 years, 14 ; between

25 and 65 years, 52 ; and over the latter age, 71. Thus the percentage of deaths under 1 year to the total was 18·7 ; and of those over 65 years, 38·0. Both these figures are just about a point higher than in 1905. The average age at death was 43·8 years, as compared with 44·4 in 1905.

The infantile mortality, or deaths under 1 year to 1,000 births, was 106, a considerable improvement on the figure of the previous year (131), and also on the decennial average (125). The causes of this drop are two-fold ; in the first place the actual number of deaths is slightly less ; and also the birth rate is greater than it has been for some years past. The mortality under this head had a somewhat different character from that of the preceding year ; diarrhœa (absent in 1905) was responsible for 9 deaths out of the total of 35, more than 25 per cent. Other causes were : Whooping cough, 1 ; tubercular disease, 1 ; diseases of the nervous system, 2 ; of the respiratory system, 6 ; of the digestive organs, 1 ; debility, 5 ; premature birth, 6 ; skin, 1 ; malformation, 1 ; and accident, 2. Thus while diarrhœal fatality showed a great increase, that from whooping cough and premature birth was correspondingly diminished ; there were also 2 infantile deaths in the Union House, of illegitimate children, but not assignable to Newton. One of these was due to phthisis, following on measles, and it was stated that the mother was suffering from that disease and also that she nursed it herself for the first 7 months (the age at death was 10 months). The other fatality was the result of malformation.

I have made the usual investigations on this subject, with results as follows : Of the total 35 deaths of infants under 1 year, 28 (or 80 per cent.) belonged to the working classes ; while in 20 (or 57 per cent.) the father was earning under £1 a week or in uncertain employment. In 21 or (omitting 6 premature births and 2 accidental deaths) 78 per cent., the children were either wholly or partially brought up by hand ; this percentage is high, owing to the number of deaths from diarrhœal diseases. Both the accidental deaths were due to overlaying ; there were two similar fatalities in the previous year. The courts were only responsible for 2 in 1906 (including one accidental) ; this gives a rate of 3·6 per 1,000, as compared with 2·6 for the whole area. 18 deaths were in houses on the lower levels, and 13 in the older dwellings ; in no case were any definite insanitary conditions found. In 13 cases the children were stated to have been born delicate, while

one or other parent had weak constitution in 7. Three of these children were illegitimate, 5 were first born, while no less than 8 were twins, including both in 2 instances.

Of the 9 who died from diarrhoea 7 were brought up by hand; 6 of these occurred in the month of September, all of which were in bottle fed children; the disease was to some extent epidemic during that month.

I append a table showing these figures in comparison with four previous years.

YEAR	Total Infant deaths excluding Union House.	Working Classes.	Under £1 a week or uncertain employment.	Hand fed.	DEATHS FROM.						In Union House.
					Digestive System.		Respiratory system.	Debility.	Premature Birth.	Illegitimate.	
					Total.	Hand fed.					
1902	38	34	19	20	15	12	4	6	6	1	7
1903	31	29	22	17	8	7	8	3	5	6	8
1904	34	32	22	24	16	16	2	6	8	5	..
1905	38	36	27	12	..	..	*12	4	12	4	3
1906	35	28	20	21	10	8	6	5	6	3	2

* 3 Influenza.

The births of 177 boys and 152 girls give an annual rate of 24·8 per 1,000; this is 2·7 higher than that of 1905 and a point in advance of the average for the years 1896—1905. This figure has not been exceeded since 1899, when it worked out at 25·2; though it was nearly approached in 1903, with 24·6. The births for the four quarters of the year numbered 86, 73, 91 and 79, giving rates per 1,000 per annum of 26·3, 22·3, 27·8 and 24·1 respectively. The natural increase, or excess of births over deaths, reckoning the mortality in the Union House and County Asylum was 142, as compared with 76 in 1905 and 91 in 1904; this gives a gain of 10·7 per 1,000.

In the Union House, which is situated in the district, there were 96 deaths, equally divided among males and females. The principal causes of fatality were phthisis, 12 deaths; cancer, 8; respiratory diseases, 10; heart diseases, 10; and old age, 31. 63 were over 65 years of age, and the average age at death was 62·9.

Their local distribution was as follows: Newton Urban, 22; Newton Rural, 17; Dawlish, 4; Teignmouth, 11; Torquay, 41; and Ashburton, 1.

It is noticeable that the number of persons dying in the Union House has largely increased during the last few years. During the years 1875—1885 the average number of deaths was 47 yearly, with a population of about 300 ; from 1886—1895, this figure was increased somewhat to 53, while during the last decade it again rose to 63. For the last three years the mortality has been 81, 91 and 96 respectively, the latter being the highest yet reached.

Taking the census figures of the Union in the successive decades as a basis, the proportion of the population who died in the House every year was 6·3 per 10,000 in the years 1875—1885 ; 6·6 in the years 1886—1895, 7·8 in the years 1896—1905, and 11·9 in 1906. The cause of this increase is that since the Union Infirmary was built (with 120 beds) a few years ago, many aged people are there looked after, who are unable to get the benefit of good nursing at home, and it is looked upon rather as a hospital than a Union House. The present population of the Institution is about 430, exclusive of officials ; besides this there are about 60 children in the scattered homes.

With the exception of the zymotic rate, which is rather high (chiefly owing to several deaths from diarrhoea) the figures for the past year may be considered as satisfactory. The death rate is well below the average and is the best recorded since 1899 ; the infant mortality has also been reduced, while the birth rate has made an appreciable advance. The phthisis rate (1·4 per 1,000, with 18 deaths) shews a slight increase as compared with the previous year, while fatalities from “others tubercular” remains stationary ; this also applies to the cancer rate, which was again ·75 per 1,000, with 10 deaths.

Heart diseases are responsible for a somewhat increased mortality, while that from the respiratory group has receded to about the same extent ; the former is considerably above the average for the previous ten years ; as in 1905 six deaths were due to violence.

ZYMOTIC DISEASES. From the 7 ordinary zymotic diseases 20 deaths were registered, viz., diarrhoea 12 ; typhoid fever, 4 ; measles, 3 ; and whooping cough, 1. This gives a rate of 1·5 per 1,000, as compared with ·92 in 1905 and a mean of 1·2 for the years 1896—1905.

The notifications of diseases were 34 in number, all but 1 erysipelas being in the last 7 months of the year ; they included 6 scarlatina, 11 diphtheria, 11 typhoid fever, 5 erysipelas, and 1 puerperal fever. In 1905 the

number of notifications was all but the same, though the distribution was different. Appended is a table shewing the monthly incidence.

DISEASE.	January	February.	March	April.	May	June	July.	August	Sept'mber	October.	November	December	Total
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlatina	...	...	...	...	...	1	2	1	1	...	...	1	6
Diphtheria	...	...	...	...	...	4	2	...	2	...	2	1	11
Typhoid Fever	...	...	...	...	...	5	1	1	...	1	2	1	11
Erysipelas	...	...	1	...	...	1	...	...	1	...	...	2	5
Puerperal Fever	...	...	...	...	...	...	...	1	...	...	...	...	1
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	1	...	...	11	5	3	4	1	4	5	34

MEASLES AND WHOOPING COUGH were in no way epidemic, though 4 fatalities were recorded. These were scattered over the year, deaths from measles occurring in January, April and December, while that from whooping cough was registered in February. All were in children under 5 years of age.

SCARLATINA. 6 notifications, as compared with 7 in the previous year. In one instance a child was brought home ill from a distance, and his mother later on contracted the disease; this was the only house in which a second case occurred, though in another part of the town two neighbours, adults, were affected within the same month, probably as the result of association. The remaining two were isolated attacks in children. Two of the above were removed to hospital, while the others were treated at home. Three were between 5 and 15 years, while 3 were over 25 years. All were of the usual mild type and there were no fatalities.

DIPHTHERIA. The experience of the previous year, during which only 1 case was reported, was not repeated in 1906, except in so far as no death resulted. There were, however, 11 notifications. Four of these constitute a small group, being all among children in a house in No. 4 Court, East Street. The children were between the ages of 4 and 11 years, and the attacks were not simultaneous, but spread over 3 weeks at the beginning of June, evidently the result of infection, though all were

promptly removed to hospital with their bedding and clothing for disinfection; the house was finally lime-washed throughout. There was no evident cause of illness, though the house was somewhat crowded. All were of a mild type and soon recovered.

Two other attacks occurred in a house in Abbotsbury; one was in a child, the mother being affected within a few days; the former became ill within 48 hours of return from a town outside the district; both were treated at home. The remaining 5 cases were in different parts of the town, one, an adult, lived in a court in Highweek Street (July), while Western Terrace (July), Gas Works Cottages (November), and Chelston Road (December) each contributed an isolated attack, the last three being children. The remaining patient was a nurse in the Union Infirmary. Examination of sanitary conditions did not reveal any defect of importance; nor could I find any evidence of accompanying sore throats, and except in the first two groups there did not appear to be any inter-association. The disease has been generally more prevalent during the past year than its predecessor, and it seems to possess a subtle infectivity which, in isolated attacks, often makes detection of the source difficult. As in scarlatina, however, any abnormal condition of the air passages, such as enlarged tonsils, or congested condition of the mucous membrane which lines the soft palate or fauces, creates a soil on which the germs of disease readily multiply; these are in themselves looked on as minor ailments, though often indicating either a naturally feeble constitution, or else insanitary surroundings—both predisposing causes of infectious illness. It is not perhaps sufficiently recognised that affections such as diphtheria and typhoid fever (with others of the same class) are often a benefit to the community. They are in fact nature's storm signals and draw the attention of the public to the fact that remedial action is called for. Chronic states of ill health which incapacitate for good work, render life miserable, and in the long run shorten it, are endured in many cases without complaint, partly because the causes are not understood, and partly because people are slow to move unless convinced by striking evidence; but a few attacks of infectious disease at once creates alarm and brings home the lesson that nature's laws are not to be disregarded with impunity. The result is much more far reaching than its immediate object—the suppression of an epidemic; for the damages assignable to the latter, would if assessed, be found insignificant in comparison.

All this is, however, commanding increased attention ; *inter alia*—the medical inspection of schools—which has for its object the detection not only of active disease, but also those minor departures from normal health which can be effectively dealt with in early life—will, if systematically carried out, tend, by direct treatment of the individual and improvement of home surroundings (these will in many cases come under suspicion and enquiry) to prolong the life and usefulness of many a member of the community. Of the above cases, 4 were between the ages of 1 and 5 years, 4 between 5 and 15 years, 1 between 15 and 25 years, and 2 over the latter age. Six were treated in hospital.

TYPHOID FEVER was responsible for 11 notifications, as compared with 18 in 1905 and 6 in 1904 ; there were 4 deaths, a somewhat large proportion. Two of these (with one fatality) originated outside the district, and do not therefore call for comment. The remainder were all isolated cases, perhaps with the exception of two boys, who were attacked in the last week in June ; these were relatives, but the history of infection was somewhat indefinite. Serious drainage defects were found in association with two others, one of which occurred also at the end of June in a house in Highweek Road ; the patient who was an adult, had been away for a few days and became ill shortly after returning ; and from one or two previous experiences it appears that removal from insanitary conditions of long standing is occasionally followed by an acute attack of disease.

As a neighbouring house had been invaded in the previous year, I suggested that the whole of this block (26 in number) should be tested ; this was done and 22 of them were found defective ; they have since been put in order.

A very similar experience occurred in a house in Abbotsbury Terrace, where another attack occurred in a young adult in November ; the drain was so defective that I requested Mr. Judd to test another dwelling in this row, with a like result. This led to the examination of 15 houses, all of which were in much the same condition ; at the time of writing 13 of them had been attended to. Unfortunately both the above were attended with fatal results.

Other isolated cases occurred in Keyberry Park, East Street, Wolborough Street, Back Lane and Buller Road ;

in two of them some minor defects were discovered, and in a third the drain, which was, however, external, had been recently choked ; but in none was there any very evident cause of disease. All these latter made good recoveries.

Of the above 4 were between the ages of 5 and 15 years, 5 between 15 and 25 years, and 2 over the latter age. Nine of them were removed to hospital.

DIARRHOEA was prevalent to some extent among young children during the late summer months—particularly September. 12 deaths resulted, which add nearly 1 per 1,000 to the zymotic rate of the town. By the instructions of the L.G.B. six come under this heading, which would in former years have been excluded from the zymotic rate. Nine of them were in children under 1 year of age, 2 were between 1 and 5 years, and 1 was over 65 years. The disease was little in evidence in the surrounding rural district (there were only 4 deaths over the whole of that area during the year) : Abbotskerswell, Chudleigh Knighton and Kingskerswell, who have the same water supply as Newton, only had one death between them, and that in a prematurely born child a few days old ; nearly all had a different milk supply, so that no common cause in these directions appeared to be operating. In the summer months, especially towards autumn, the feeding of young children needs great care ; if bottles are used, the long tube variety is always to be avoided and the bottle washed out daily with hot water. Milk should be bought fresh twice a day and kept in the coolest possible place, not in a kitchen cupboard, and covered with muslin to keep off flies, which have recently come under much suspicion as carriers of infection. Further, diarrhoea in children, however slight, should receive immediate attention.

PHTHISIS caused 18 fatalities, as compared with 16 in 1905 and 22 in 1904. There were 5 deaths between 15 and 25 years, 12 between 25 and 65 years, and 1 over the latter age. Other tubercular diseases were responsible for 7 deaths ; while there were also 7 in 1905 and 5 in 1904.

Disinfection with the Lingner apparatus is offered by the authority after death, and in most cases carried out.

The Isolation Hospital is situated on the Totnes Road, about a mile from the centre of the town. Sixteen parishes are associated with the hospital combination, viz., Wolborough and Highweek (Newton Urban District). Abbotskerswell, Bishopsteignton, Bovey Tracey, Chudleigh, Cockington,

Coffinswell and Dacombe, Coombe and Haccombe. Hennock, Ipplepen, Kingskerswell, Kingsteignton, Ogwell, Teigngrace, Torbryan and Denbury. A proposal to bring in the whole of the Rural District is under the consideration of the County Council.

Eight patients can be accommodated in the typhoid fever wards, while the iron buildings contain 12 beds, and are used for scarlatina cases. There is an administrative block ; also a steam disinfecter and mortuary. I give the following extracts from the annual report of Dr. J. W. Ley, the medical superintendent.—

During the year 1906 there were admitted into the Newton Abbot Joint Isolation Hospital 46 cases, viz., 15 typhoid fever, 19 scarlet fever, and 12 diphtheria. Of these, 4 cases of typhoid died and 1 of diphtheria ; one of the cases of typhoid was complicated with tuberculosis, which was the real cause of death. Many of the cases of typhoid were of a very severe type.

February 7th, 1907.

J. W. LEY.

DISINFECTION. Houses are limewashed and disinfected by the authority where necessary ; clothes and bedding are dealt with by the steam disinfecter at the hospital. The Lingner apparatus for the aërial disinfection of rooms is in use.

One death from anthrax was registered in an elderly woman ; she was not a regular woolworker, and had only been in contact with skins for one day. Here, however, this disease is very rare in the human subject ; but cases among cattle in the surrounding rural district seem to be rather on the increase of late years.

MIDWIVES ACT. There are at present four midwives on the register ; one of these is certified by training and examination, while the others are registered by virtue of long practice. Visits of inspection are regularly paid.

SANITARY CONDITIONS & PROCEDURE.

The water supply is that of Torquay and is good and abundant. There are, however, some wells in the rural part of the district ; also two or three springs which arise in the Wolborough Hill are still used.

I made an analysis late in the year of the conduit under old St. Mary's, Highweek, and was surprised to find it of such good quality (though very hard), considering the number of houses on the hill above it. This spring is still used for drinking purposes by the tenants of several surrounding cottages, though the necessity to do so no longer exists.

SEWERAGE. Water closets are general ; the trunk sewers are of masonry and are brought to one outfall in the marshes, where there are settling tanks, the effluent from which discharges into tidal waters.

Besides the necessary work in this connection carried out

on building estates, two important lengths of sewer were laid down ; the first was an extension of the Highweek Road sewer up the hill to the vicarage, a distance of 670 feet. This is the first step in a scheme which will eventually bring the drainage of a considerable part of the village of Highweek into the main system of the town ; at present, however, there is no sign of building development, which would immediately justify its further progress.

The other was the reconstruction, at a greater depth, of an old and defective stone sewer in Back Lane, Wolborough Street ; this involved about 280 feet of new work.

Besides the above a short piece of sewer was re-laid in St. John's Street, with the object of obtaining a better fall ; this was done in connection with drainage renewals in adjacent houses, and the conditions previously obtaining made the work necessary.

SCAVENGING. House refuse is removed three times a week in the more densely populated parts of the town, and twice a week in the outskirts.

DAIRIES, COWSHEDS, &C. These are systematically inspected twice a year by Mr. Judd and myself, besides being visited from time to time on other occasions. A list is kept of cowkeepers and dairymen with external source of milk (if any). The Dairies, Cowsheds and Milkshops Order of 1885 is in force in the district, and the model regulations of the L.G.B. of 1899 have recently been adopted by the Council.

SLAUGHTERHOUSES. There are one public and three private slaughterhouses in the town ; these are also visited constantly.

I have (with Mr. Judd) inspected all the workshops in the list ; details are given in his special report on the subject.

The provision of closets in manufactories is enforced by the Factories Inspector, while attention to the accommodation in workshops is paid by the Council's officers.

HOUSING OF THE WORKING CLASSES. No houses were condemned during the past year, nor did any cases of overcrowding come under notice. Building operations continue to be somewhat slack, but plans for 45 new dwellings were passed, as compared with 38 in the previous year ; these included 39 artizans cottages. Besides the above there were 15 others—10 for additions or alterations to existing buildings, 1 studio, 1 milkstore, and 3 stables.

The greater part of the house construction now proceeding is confined to the Abbotsbury Estate, Deer Park (Decoy), and Mr. Snow's Orchard ; besides these Forde Road and King Street are slowly extending. In comparison with previous years this seems somewhat insignificant, but at the rate of 4·6 persons per

house, it will be seen that accommodation was afforded for 200 additional people ; thus absorbing the natural increase (excess of births over deaths) of 142, and giving room for 58 immigrants besides.

During the past year I have gone through the first two volumes of the "House to House Inspection Records," and have again visited many of the houses. The original inspections were made between November, 1898, and February, 1899. The districts concerned included Wolborough Street and its courts, Manor Cottages, Salem Place, Pomeroy Cottages, Waltham Terrace, Linden Terrace, St. Leonard's Terrace, Powderham Road, Tudor Road and Manor Crescent—in all 490 houses. Since that time the following works have been carried out in regard to them : the drainage in connection with 147 houses has been entirely reconstructed and partially so in the case of 90 more ; that is to say that nearly 50 per cent. of the drains have been put in order ; in all 210 closets were provided with a flush. At the time of our recent investigations nearly all the major recommendations had been carried out and since then the few outstanding ones have been dealt with ; all closets in this district are now flushed. In many cases the drains were tested, and of course it will be understood that this inspection merely referred to defects which were visible above ground ; there may still be defective underground work remaining in some instances.

I propose to continue this process systematically until all the older houses have, as far as possible, been dealt with.

SCHOOL SANITATION. In the parish of Wolborough there are seven public elementary schools, viz., National, boys, (average attendance 282) ; National, girls (270) ; British, boys (144) ; British, girls and infants (136) ; Catholic, mixed (86) ; St. Leonard's, infants (190) ; and Marsh, infants (230). Thus the total average attendance during the past year was approximately 1,338. The town has, however, outgrown its school accommodation, and nearly all the above are taxed to their utmost capacity. The position has for some time past been under consideration, and will be met by the provision of a new school in the Decoy suburb ; the County Council are now negotiating a site, and it probable therefore that the work will soon be in hand. This will not only relieve the present congestion in the older and more central buildings, but will afford great convenience to those living in a growing neighbourhood, seeing that the nearest school is not far short of a mile distant. From the sanitary point of view, it seems preferable to build two or three schools on the circumference of such a town as Newton, rather than concentrate in one central building in a congested part of the district. Not only are the various suburbs better accommodated, but good play ground space is more easily obtained, the surroundings are more rural and the

children are kept away from the crowded streets ; moreover where the pupils are divided up among several schools, infectious disease has a narrower limit in which to operate, and is therefore more readily checked. I do not refer to the pecuniary and administrative side of the question, which do not come within the scope of this report.

With regard to the sanitary conditions of the above, during the last three years the drainage of the British Schools, Catholic and St. Leonard's has been entirely reconstructed and partially so at the Marsh ; all have the public water supply on the premises for drinking and sanitary purposes.

The St. Leonard's infant school has, however, insufficient closet accommodation (only 3 with an average attendance of 190 children and no separate provision for teachers) ; there is neither room to construct more nor any open space for play ground at this school.

The number of closets at the British Schools is hardly up to the requirements of the code.

In the parish of Highweek there are three Council Schools—boys, girls and infants—all separate buildings, with a combined average attendance of about 477. Here also the provision of further accommodation for boys has been found necessary, and this school is therefore to be enlarged (with suitable sanitary accommodation) ; the plans have already been passed by the County Council.

The drainage of the boys' school was entirely reconstructed during the previous year, and that at the infants' school partially so, though the closets were not included ; there is no separate provision for teachers. This latter, owing to a scarp wall at the back, is cramped for space and there is very little play ground ; if the site of the adjoining and now disused church could be obtained for this purpose a much needed improvement would be effected. All have the public water supply for drinking and sanitary purposes on the premises.

MR. LEWIS STEVENS, Surveyor, reports as follows :—

Report of sanitary work carried out in connection with the sewers of the district and of the plans for new houses and additions during the year ending 31st December, 1906.

The past year has seen a greater length and number of new sewers laid than during the previous year, and comprises the following :—

ABBOTSBURY ESTATE.

228	feet	lineal	9"	sk.	pipe	in	Abbotsbury	Road.
475	"	do.	8"	"	"	"	"	"
70	"	do.	9"	"	"	"	"	"
90	"	do.	7"	"	"	"	"	"
291	"	do.	6"	"	"	"	"	"

} „ the roads at the rear and side of same.
} at the north side of the new church.

KEYBERRY DISTRICT.

200 feet lineal 9" pipe has been laid in Deer Park, towards the allotment ground.

At Highweek Avenue a new length of sewer has been extended, which entailed the laying of 670 feet lineal of 9" sk. pipe.

An old stone sewer, which was very shallow, has been replaced with 280 feet of 12" pipe in Back Road, Wolborough Street.

The extension of the cottages in Forde Road, on the east side of the railway, has involved the laying of 137 feet of 9" sk. pipe to carry on the sewer for the new houses.

Other minor cases include the relaying of a sewer in Osborne Street, in which 80 feet of 7" pipe was laid; and the extension of the sewer by Cricketfield Terrace, where a length of 90 feet of 9" pipe has been laid and connected to a cast iron pipe laid under the new bridge over the stream, thus providing for the sewer being extended in the future to take the drainage of the main part of Knowles Hill.

In connection with the new sewer at Highweek Avenue, the pipes have been laid with a double Hassal joint to ensure against any subsoil water from the fissures and bed of the shillet leaking through into the sewer.

Inspection chambers and lampholes have been provided for the efficient inspection and control of the same and the drains.

PLANS.

29 sets have been submitted to the Council during the past year, against 22 sets for the previous year of 1905.

In addition to the rebuilding of the Half Moon in Wolborough Street, they include

- 2 detached villas,
- 2 pair of semi-detached villas,
- 31 medium or artizans houses,
- 7 smaller or cottage class,
- 1 entrance lodge,
- 3 stables—new buildings,
- 9 additions to houses, as baths, &c.,
- 1 studio,
- 1 milk store, and
- 1 for rebuilding and alteration to front.

LEWIS STEVENS, SURVEYOR.

Dated, 9th February, 1907.

MR. H. JUDD, Sanitary Inspector, reports as follows:—

To the Chairman and Members of the Newton Abbot Urban District Council.

GENTLEMEN,—The following is a record of the work carried out in my department for the year ending December 31st, 1906; this being my sixth annual report. During the year 246 properties called for attention and, in dealing with the various nuisances in connection therewith, it was found necessary to make 540 visits. The number of houses in which the drains required relaying or repairing is 78. Compared with previous years this is a considerable decrease, due to the fact that the number of houses needing drainage improvements is yearly diminishing. Since the year 1900 the drains and sanitary arrangements of 864 properties have been put in order.

POLYBLANK'S BUILDINGS.

A case of typhoid fever having occurred in one of these houses, and the drains found in bad order, your Council gave instructions for the whole of them to be examined, with the result that the drains of 22 out of the 26 houses were found defective; all have now been repaired.

ABBOTSBURY TERRACES.

In consequence of another case of typhoid, at a house in this terraces, the drains of which were also found in a defective and choked condition, directions were given to examine all the drains in the terrace; also those of the houses immediately behind, known as Abbotsbury Avenue.

Up to the present time only those in Abbotsbury Terrace have been tested, and in every house in the block of 15 a brick channel was found under the closet syphon instead of the usual stoneware piping. In each house the remaining part of the drain was piped, but the joints were improperly stopped.

We commenced our investigations in November, and already the drains of 13 houses have been put in order.

NEW BUILDINGS.

The drains and sanitary appurtenances of 43 buildings have been supervised and tested previous to occupation - an increase of 2 on last years' number.

COMMON LODGING HOUSES.

There are two common lodging houses in the town, affording accommodation for 64 persons; one in East Street having sleeping room for 33, and one in Wolborough Street for 31.

They are regularly inspected for the purpose of seeing that the rooms, bedding, etc., are clean; windows kept open for ventilation, and that no overcrowding takes place. Lime washing has to be attended to when necessary, and the floors swept daily and washed weekly.

Except on special occasions, such as fair or race meeting days, these places are hardly ever full. In fact, the keepers usually complain of the slackness of business; perhaps not an undesirable state of things as far as the general welfare of the town is concerned, for the people who resort to those places are mostly of the itinerant class, here to-day and there to-morrow, and who, by their wanderings from town to town, are likely to convey and spread infection.

SLAUGHTER-HOUSES.

There are 4 slaughter-houses in the town, one of which is the property of the Council where most of the local slaughtering is done. They are regularly visited and usually found satisfactory.

In the early part of the year the carcase of a lamb, quite unfit for food, was found hanging in the public slaughter house. The animal had met with an accident and had bled internally, and consequently the flesh was very dark.

With the owner's consent the carcase was destroyed.

COWSHEDS, DAIRIES, AND MILKSHOPS.

The number of registered cowkeepers or milk purveyors on the register is 24, being an increase of one as compared with last year. These are frequently inspected and, when found necessary, directions given for cleansing and limewashing.

At the present time your Council is making application to the Local Government Board for consent to adopt the model regulations respecting cowsheds, dairies and milkshops.

It will be a decided advantage to have these regulations in force, as they give increased power for safe-guarding our milk supply.

FACTORIES AND WORKSHOPS.

The number of workshops on the register at the present time is 83, being a decrease of 9 since 1905.

These are classified as follows :—Bakers, 13 ; Basket-makers, 2 ; Brush-makers, 1 ; Builders and Carpenters, 9 ; Cycle Shops, 3 ; Coach Builders, 2 ; Cabinet Makers, 1 ; Dressmakers, 20 ; Dyers, 1 ; Laundries, 6 ; Marble Masons, 3 ; Painters, 1 ; Plumbers, 3 ; Saddlers and Harness Makers, 3 ; Smiths, 6 ; Tailors, 8 ; Tin Smiths, 1.

All have been inspected during the year and found satisfactory, except 9.

In these 9 cases notices were served for—(a) providing new drains in lieu of defective ones, 3 ; (b) limewashing, 4 ; (c) improving ventilation, 1 ; (d) fixing abstract of Factory Act, 1. All the notices have been complied with.

The Act provides for lists of outworkers to be sent by the employers to Local Authorities twice in each year. One such list has been received with the names and addresses of 3 outworkers, one of whom resides in the Rural Council's district. Information as to the latter has been forwarded to the Rural Authority, while those in our own district have been visited and the premises found satisfactory.

DISINFECTION.

Eighteen rooms have been fumigated with formaldehyde after infectious illness ; the apparatus used for the purpose being Lingner's machine. This apparatus has been in use in our district for the past 4 years and has done its work most effectually.

CLERICAL WORK.

The number of intimation notices served is, 76 ; complied with, 59 ; legal notices served, 4 ; complied with, 4 ; letters written, 207.

Summary of sanitary improvements effected during the year :—

Drains relaid or repaired	...	...	..	78
Rain water down pipes cut off from drains	...	...	...	35
Drain inspection chambers built	..	...	...	29
Soil and vent shafts fixed	...	...	...	13
Soil and vent shafts repaired	...	...	...	23
Internal soil pipes removed	...	...	...	1
Drains cleansed	...	..	...	5
Extra closet accommodation provided	..	...	...	1
New wash-down closet pans provided	...	...	...	22
Closets flushed	...	..	...	21
Closet flush cisterns repaired	...	...	..	4
Courtyards paved	..	...	..	8
Courtyards repaired	..	...	...	17
Houses cleaned or repaired	...	...	...	8
Fowl keeping discontinued	...	...	..	2
Offensive accumulations removed	...	..	...	9
Drinking taps fixed on mains	...	..	...	30

I have the honour to be, Gentlemen,

Your obedient servant,

HENRY JUDD,

Sanitary Inspector.

III.—DAWLISH URBAN.

PHYSICAL CHARACTERS. The town is situated at the bottom and on the slopes of a picturesque ravine, running from Haldon in an easterly direction to the sea, and is in a remarkable manner isolated by the surrounding hills. The central part of the town is occupied by extensive gardens, through which runs the stream known as Dawlish Water. The hills vary from cliffs overhanging the sea with a height of 150—200 feet up to 800 feet on the summit of Haldon. The district, which has a total area of 1,500 acres, includes the residential village of Holcombe, pleasantly situated on the cliffs about $1\frac{1}{2}$ miles to the south. The geological formation is red breccia or sandstone.

The population at the census of 1901 was 4,003, which for statistical purposes I have left unchanged; there were at that time 892 inhabited houses, with an average number of 4.5 persons per house.

VITAL STATISTICS. The number of deaths registered in 1906 was 56, of whom 37 were in males and 19 in females, giving an annual rate of 14.0 per 1,000; compared with a death rate of 20.2 in 1905, and an average of 18.0 for the previous ten years. There were 10 fatalities in visitors; if these are deducted the figure is reduced to 11.5. In the Union House at Newton 4 deaths were recorded in persons belonging to Dawlish; omitting these also there is a further reduction to 10.5. The deaths in the four quarters of the year numbered 11, 17, 17 and 11, giving annual rates per 1,000 of 11.0, 17.0, 17.0, and 11.0 respectively. Thus the second and third quarters shewed the highest mortality, while April, July and December (7 deaths each) were the most fatal months.

CHIEF CAUSES OF FATALITY. From the 7 ordinary zymotic diseases, 2 deaths; influenza, 2; constitutional diseases, 7, of which 2 were due to cancer and 3 to phthisis; diseases of the nervous system, 10; of the respiratory system, 9; of the circulatory system, 12; of the urinary system, 3; of the digestive system, 4; of parturition, 1; of generative organs, 1; infantile debility, 1; premature birth, 1; and old age, 3.

AGE INCIDENCE. Under the age of 1 year there were 4 deaths ; between 1 and 5 years, 2 ; between 5 and 15 years, 1 ; between 15 and 25 years, 2 ; between 25 and 65 years, 21 ; and over the latter age, 26. Thus the percentage of deaths under 1 year to the total was 7·1, and of those over 65 years 46·4. These figures compare very favourably with those of 1905, which were 18·5 and 42·0 respectively. The average age at death was 54·6 years.

COMPARATIVE TABLE.

DEATHS FROM	1906	Average of years 1896-1905	1905	1904	1903	1902	1901
Smallpox	...	...	...	...	...	...	...
Measles	...	1·9	10	...	...	...	...
Scarlatina	...	·2	...	...	1	1	...
Whooping Cough	...	1·3	...	2	...	...	...
Diphtheria	1	·1	1	...	...	...	...
Continued Fevers (Typhoid, &c.)	...	·2	1	...	...	...	...
Diarrhœa	1	1·1	...	...	...	2	5
Seven Chief Zymotics	2	5	12	2	1	3	5
Phthisis	3	6	7	7	10	6	8
Other Tubercular Diseases	1	2	1	...	3	4	2
Bronchitis, Pleurisy, Pneumonia	5	10	16	7	6	7	12
Heart Diseases	12	11	11	14	9	17	3
Cancer	2	5	5	6	7	...	6
Violence	...	2	2	4	3	3	2
All Other Diseases	31	32	27	24	30	29	19
Total deaths	56	73	81	64	69	69	59
Estimated Population	4000	4030	4000	4000	4000	4000	4003
General Death Rate	14·0	18·0	20·2	16·0	17·2	17·2	14·7
Ditto excluding visitors	11·5	15·7	19·0	13·2	14·7	15·2	13·7
Zymotic Death Rate	·50	1·2	3·0	·50	·25	·75	1·2
Total Births	77	78	75	76	62	81	59
Birth Rate	19·2	19·5	18·7	19·0	15·5	20·2	14·7
Deaths under 1 year	4	11	15	8	5	13	12
Deaths between 1 and 5 years	2	4	8	1	2	4	1
Deaths over 65 years	26	27	34	31	31	26	18
Deaths under 1 year to 1000 births	52	147	200	105	81	160	203
Deaths in Union House belonging to District	4	2	3	1	6	3	1
Ditto in County Asylum	...	...	1	...	...	...	...

THE INFANTILE MORTALITY, or deaths under 1 year to every 1,000 births, was 52 ; this is only about a quarter of the previous year's figure, and rather more than a third of the decennial average. Diarrhœa, pneumonia, premature birth, and infantile debility each contributed one death to the small total.

The births of 39 boys and 38 girls give an annual rate of 19·2 per 1,000, which is a fraction greater than that of 1905, and approximates the average for the preceding ten years. The births during the four quarters of the year numbered 23, 20, 17 and 17, giving rates of 23·0, 20·0, 17·0 and 17·0 per 1,000 per annum respectively.

The natural increase, or excess of births over deaths, reckoning the mortality in the Union House, was 21, or 5·2 per 1,000 of the population.

The above figures constitute perhaps, on the whole, the best annual record produced by the district. The death rate, both in the gross, and also excluding visitors, is the lowest reached since the constitution of the district in 1875. In 1901 the general death rate worked out at 14·7 (and 13·7 ex visitors), while in 1897 the figures were 14·8 and 12·0 respectively; these are the next in order of merit.

Then the extremely low infantile mortality has only once been surpassed (and that barely), in 1891, when a combination of 98 births, with 5 deaths under 1 year, worked out at 51.

The zymotic rate, though good, was not extraordinary so, but one of the deaths was in a visitor, taken ill after a few days residence. Cancer and phthisis, important diseases, also shewed a marked improvement, with rates of ·50 and ·75 per 1,000 per annum respectively. In 1905 the former was 1·2 and the latter 1·7. The mortality from the tubercular group of diseases was only half the mean for the years 1896—1905. Deaths from heart disease remain at just about the normal figure, while those due to the respiratory group are much reduced.

The birth rate is the worst feature, but this has remained stationary, though at a low mark, during the last three years.

ZYMOTIC DISEASE. From the 7 ordinary zymotics there were 2 deaths—1 from diphtheria and 1 from diarrhœa; this gives an annual rate of ·50 per 1,000, as compared with 3·0 in 1905 and an average decennial rate of 1·2.

The notifications were 3 in number, all diphtheria. The first of these was reported about the middle of August, in a child 3 years old, a visitor who had arrived about a week previously. There were several other children in the house, who all apparently escaped, at all events there was no history of other sore throats among them; as far as the house itself was concerned, the sanitary conditions

were beyond suspicion. This case ended fatally, from kidney trouble, after the acute stage of the disease had passed.

The other two attacks were both in adults; one obviously originated outside the district; the other presented no very definite cause for illness. Both these were of mild type and made good recoveries.

Thus Dawlish was remarkably free from infectious disease during the past year.

ISOLATION HOSPITAL. This question has not been further discussed since my last report. Houses are disinfected and limewashed when necessary and rooms are fumigated with the Lingner apparatus for aërial disinfection.

PHTHISIS. Only 3 deaths were registered. Two were in residents and a third in the Union House in a person belonging to the district. This is just half the decennial average. One of the deaths was between 15 and 25 years, one between 25 and 35 years, and one over 55.

Voluntary notification has been adopted, but again no cases were reported. Rooms are disinfected by the authority free of charge, by the Lingner apparatus, after death.

MIDWIVES ACT. There are only two midwives on the register, both of whom come under the section which allows registration of those in practice previous to 1902. Visits of inspection are paid from time to time.

SANITARY CONDITIONS & PROCEDURE.

WATER SUPPLY is derived from two springs on Haldon, the flow from which, after a short course—in one case of three-quarters of a mile and in the other about a quarter of a mile—is collected in a small impounding reservoir with a sand filter, and is thence piped to the town, a distance of about 5 miles. The gathering ground is uncultivated and of moorland type, and is entirely free from houses or any source of animal pollution. There is a reservoir containing 500,000 gallons on the Burrows, a hill just outside the town; this reservoir supplies the houses on high levels, whilst the others draw direct from the main. This is continued to Holcombe, which is thus supplied from the same source, though some of the houses derive their water from a spring on the hill above; the intake reservoir and the stream immediately above are cleaned from time to time by the surveyor. The water supply has been practically constant during the whole of the past year, though some care was necessary to ensure that the houses on the lower levels—which only have the small impounding reservoir at the Thorns to draw upon—had an

adequate service. There were, however, no complaints and there was enough for all purposes ; indeed on the occasion of the annual visit of the Council to the Thorns in August, the water was running over the dam at mid-day. Considering the long drought, this is very satisfactory.

SEWERAGE. Water closets are general ; the sewers are all brought to one main outfall, which is taken out to sea at a distance of about three-quarters of a mile north of the station ; the outlet is below low water level. The outfall sewer worked very well during the year under review.

Holcombe has a sewer which also discharges into the sea.

In my report for 1905 mention was made of an investigation into the condition, level, and capability of the various trunk sewers of the town, which was carried out by the late surveyor. In this certain suggestions were made which were taken into consideration by the Council, but owing to the change in officers no action has as yet been taken ; Mr. Churchward has, however, been directed to make his report on this matter, and it seems advisable that the surveyor should become thoroughly acquainted with the whole question and the needs of the town, before any work is commenced. The sewerage system is complicated, and the situation of Dawlish at the bottom and on the sides of a ravine is such that the incidence of storm water creates its own special difficulties—all requiring careful consideration.

SCAVENGING. House refuse is removed daily in the central portion of the town ; twice or thrice weekly in different parts of the outskirts ; and weekly at Holcombe. I suggested that the second cart should be covered in, and the sum necessary is to be included in the estimates for the current year.

SLAUGHTER-HOUSES, of which there are 6, are regularly inspected by the surveyor and myself. The owners have been called on to comply with the bye-laws and they are generally kept clean.

HOUSING OF THE WORKING CLASSES. No cases of overcrowding have come under notice, and I have not had occasion to report any dwellings as unfit for occupation during the past year.

Some little building activity is manifesting itself and plans for 10 new dwellings were passed—six of these were for a row of cottages at Wick ; these are of the 5 roomed type, and will afford excellent workmen's dwellings. There is plenty of garden space and their red tile roofs in combination with the cement blocks of which they are constructed give them a more than usually picturesque appearance ; they are now approaching completion.

Two other houses of a larger type are in course of erection in Barton Terrace ; these fill up a longstanding gap in this row and are also nearly finished.

SCHOOL SANITATION. There are three public elementary schools in the town ;—boys' with an average attendance of about 180 for the past year, girls' with 160, and infants' 140—these two latter being practically under the same roof. All have the public water supply for drinking and sanitary purposes on the premises. The drainage of the girls school was entirely reconstructed about 3 years ago ; at the boys school the closets are of the trough type, but though not very modern, are well flushed and do not seem to give any trouble.

In the early part of 1906 a Local Government Board enquiry was held to sanction a loan for providing a public sanitary convenience on the Lawn ; this was found by experience to be an increasing necessity. Plans were prepared by the surveyor, and the work is satisfactorily progressing. In view of the number of visitors who find the Lawn a great attraction, this will afford much needed accommodation ; at the same time a drinking fountain was provided.

WORKSHOPS, &c. The Act as far as the factories are concerned is administered by the Factory Inspector. In company with Mr. Churchward I visited the following workshops ; these were found in good order and there is nothing of importance to note concerning them. There is one bake-house which comes under the definition of underground ; the construction of this is satisfactory and the occupier has the license of the Council accordingly. There is only one out-worker, as far as can be ascertained.

Bakers	...	...	...	...	8
Boot Repairers	..	...	..	..	1
Builders	...	...	..	...	6
Carriage Works	...	...	...	...	1
Dressmakers	..	...	...	...	10
Laundries	...	..	..	..	14
Plumbers	..	...	...	...	2
Printers	...	...	...	..	2
Saw Mills	...	...	..	...	1
Tailors	..	..	...	...	5

This makes a total of 50, an increase of 1 over those of the preceding year.

Mr. Churchward has included in his report a few meteorological notes ; this department might very well be extended, seeing that seaside towns which cater for visitors—particularly on this coast—hold out the favourable conditions which obtain in the neighbourhood as a special inducement. Compared with towns further inland, the rainfall on the sea border is much smaller, and the amount of sunshine presumably larger in proportion ; this cannot, however, be definitely measured without a sunshine recorder, which we do not at present possess. I think that Dawlish would shew a very good record under this heading, if complete observations were possible.

Mr. S. F. C. CHURCHWARD, Surveyor, reports as follows :—

I append below statistics respecting sanitation for the year ending 31st December, 1906, also meteorological notes for the same period, taken from instruments on the Lawn.

SANITATION.

Houses inspected	..	..	..	..	..	32
Dairies and cowsheds inspected	...	..	...	...	...	10
Slaughterhouses inspected	...	...	...	...	...	6
Intimation notices served	..	...	..	...	...	9
Houses disinfected	...	...	..	...	...	8
House drains, new connections to sewer	...	...	...	...	...	8
Houses redrained	...	..	..	...	...	8
House drains intercepted	...	...	..	...	...	8
Total number of smoke tests	...	..	...	...	...	20
Removal of offensive accumulations, by notices served...	...	...	...	...	...	2
Total number of water tests	...	..	...	...	...	45
Total number feet of drain, water tested	...	...	...	...	...	610
Total number of visits	..	...	...	...	...	240
Sanitary certificates given	...	...	...	...	...	4
Plans were submitted and approved for erection as follows :—						
New dwelling houses	...	...	...	...	...	10
Additions to existing property	..	...	...	...	...	1
Bay window	...	...	...	..	...	1
Sheds	..	...	...	..	...	2

METEOROLOGICAL

RAINFALL, THE LAWN.

January	..	..	6.42 inches	July	...	...	0.90 inches
February	...	..	3.75 "	August	..	...	1.73 "
March	...	...	1.06 "	September	...	...	0.80 "
April	...	...	1.24 "	October	...	...	4.06 "
May	...	...	1.90 "	November	..	...	2.36 "
June	..	...	1.27 "	December	...	...	1.71 "

Total 27.20

Record kept at Lawn. Latitude, 50°35' N. Longitude, 3°27' W. Time of observation, 9 a.m. G.M.T. Diameter of gauge, 5 inches. Height above ordnance datum (sea level), 17.59 feet.

The temperature taken by Zambra and Negretti's Thermometers (Far) in Stevenson's screen, are as follows :—

					Max.	Min.
January	...	...	..	...	52.5	36.5
February	...	..	...	..	50.0	35.0
March	..	..	..	...	53.5	34.0
April	..	..	...	...	58.0	35.5
May	..	...	...	...	66.0	40.0
June	..	...	..	...	66.5	45.0
July	...	..	...	...	70.0	50.5
August	...	...	...	...	70.5	53.5
September	...	...	...	...	70.5	55.0
October	...	..	...	...	64.0	46.0
November	...	...	...	...	55.0	38.0
December	...	...	...	...	53.5	35.0

Clouds estimated 0 to 10.

January	...	...	2.6	July	...	2.6
February	..	...	2.9	August	...	3.2
March	..	...	3.0	September	...	2.2
April	...	..	2.0	October	...	2.8
May	...	...	3.09	November	...	3.90
June	...	...	2.8	December	...	4.05

Wind during the year was as follows :—North, 30; N.W., 72; N.E., 23; S., 24; S.W., 81; S.E., 60; E., 90; W., 66 days.

S. F. C. CHURCHWARD, Engineer and Surveyor.

ANALYSES OF WATERS—1906.

No.	Source.	Date of collection.	Physical character.	Parts per 1,000,000				Chlorine grains per gallon	Total Solids	Oxygen Absorbed	Remarks
				Free Ammonia	Ammonoid Ammonia	Nitrogen from Acids	Total Solids				
1	Newton Rural. Abbotskerswell, well, Prospect Place.	July 12	good	·005	·07	...	3·2	58·8	moderate	A very fair well water	
2	Abbotskerswell, well at Post Office.	Oct 16	good	·03	·20	...	6·7	49·0	considerable	Shows considerable evidence of pollution	
3	Boxey Tracey, Pottery Lane.	Sept 14	good	·025	·10	...	1·0	9·8	considerable	There is a certain amount of peaty matter in this	
4	Boxey Tracey, well, Riverside Farm.	Oct 9	good	·03	·20	...	7·3	70·0	considerable	Unfit for drinking purposes	
5	Boxey Tracey, well, Riverside House.	Oct 27	good	·005	·04	...	1·8	15·0	moderate	A very good well water	
6	Chudleigh, potwater source.	April 27	good	·015	·045	...	1·5	9·8	moderate	A spring from greensand : quality of usual high standard	
7	Dawlish West, spring, Duck Aller.	Jan 25	good	·01	·10	1·0	2·3	16·8	considerable	Taken after heavy rains and contains a little vegetable matter	
8	Dawlish West, stream, Duck Aller.	Jan 25	good	·01	·11	·30	2·3	16·8	considerable	The usual characters of river water	
9	Dawlish West, springs, Duck Aller.	Oct 26	good	·005	·035	1·0	2·4	14·0	moderate	An excellent analysis	
10	Hennoek, shute below Schools.	Aug 8	good	·015	·04	...	1·4	14·0	moderate	Another good spring water	
11	Hsington, well, new house, near Shofts.	Jan 3	good	·005	·05	·35	1·1	8·0	moderate	A granite well water of excellent quality	
12	Hsington, well, Cunningham's Cross.	May 25	good	·01	·05	...	4·2	49·0	small	These two wells have much improved of late years	
13	Hsington, well, Mount Hill.	May 30	good	nil	·04	...	7·3	51·8	small		
14	Hsington, well, Halford (in road).	June 2	good	nil	·04	...	1·8	28·0	small	A very good well water	
15	Hsington, well, Haytor Hotel.	June 15	good	·01	·02	...	1·3	13·5	small	Maintains all its good qualities	
16	Hsington, granite shute, Haytor Down.	Aug 19	good	·005	·045	·15	1·0	9·8	moderate	An upland surface water of good character	
17	Ogwell, well, centre of village.	April 2	good	nil	·02	...	1·7	28·0	small	This well shows a high standard both as to quantity and quality	
18	Ogwell, well, at West Ogwell House.	June 18	good	·02	·04	2·0	2·2	40·0	moderate	A very fair well water	
19	Ogwell, well in Mr Will's orchard.	July 13	good	·045	·07	...	3·8	49·0	moderate	Hardly up to the standard of No. 17	
20	Teigngrace, well near School.	Mar 20	good	·01	·14	...	4·2	63·0	considerable	Contains too much vegetable matter to be desirable for drinking purposes—a shallow well	
21	Teigngrace, well near School.	June 26	good	·01	·20	...	4·0	49·0	large		
22	Newton Urban. Well, Aller Cottages.	April 9	good	nil	·03	...	2·4	21·0	small	This is now a very good water	
23	Conduit, St. Mary's, Highweek.	Dec 14	good	nil	·03	...	3·8	51·8	small	A hard but good supply	

